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An Index to the Sixty-first Volume of THE RAILWAY GAZETTE, covering the issues from July 6 to December 28, 1934, is presented as a Supplement to each copy of this week's issue.

## The New Year

A YEAR ago the keynote of the New Year messages from the railway managers to their staffs was one of a moderate optimism which the past year has justified. Again hope for further improvement is generally expressed, as well as appreciation of the efforts made by one and all to seize every opportunity for improvement. Our own feelings are mixed. While, of course, we are glad that the general railway position is better than it was twelve months ago, we are sorry that it is still well below the 1929 level, instead of far above it. Engineering and industrial progress has been continuous; the world is potentially wealthier now than ever before; there is no need in reality for anyone to go short of anything; manufacturers of goods and services, the railways no less than any, cry out for orders; yet the people do not grasp the significance of this state of affairs, so long have they been used to scarcity. We believe that the time is not far distant when they will awaken to the wonderful truth that they are the heirs to a great inheritance of accumulated genius and industry, and can enjoy them without asking for sacrifices from anyone. When that time comes all the past peaks of prosperity on the railways will pale into comparative insignificance. May awakening begin this year!

## The Season's Greetings

For several weeks past we have been heartened by the receipt of many expressions of appreciation and goodwill from all parts of the world—not an unusual experience at this time of year: but a sure proof, if any were needed, not only that this journal is, indeed, "read wherever there are railways," but is also widely and warmly approved. This gratifying tribute takes the triple form of Christmas and New Year cards, wall calendars, and desk or pocket diaries—many of them of a highly artistic character and therefore a testimony to the good taste of those who commissioned or chose them as well as to the workmanship of those engaged in their production. From the four corners of the earth they come; and we shall not, we hope, be thought invidious when we say that not the least excellent or welcome among them, are those which have been forwarded from distant parts of the Empire. From foreign countries also we have received greetings; and a pleasing and significant feature this year is the inclusion of a card of good wishes from Railway Air Services. Further acknowledgment of these expressions of goodwill will be found on a later page herein. We would like to add, in conclusion, how very cordially we reciprocate the kindly spirit implied in these annual greetings: and, in thanking the senders, wish one and all a peaceful and consequently a happy and prosperous New Year.

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## Weeks' Traffics

Owing to Christmas Day, 1934, having fallen on a Tuesday railway traffic comparisons for a week only are likely to be misleading. In the accompanying table we have accordingly compared the two weeks which include Christmas 1934 traffics with the corresponding fortnight in 1933. Generally speaking, passenger train traffics were down in the 51st week and up in the 52nd, merchandise receipts were up in the 51st week and down in the 52nd, and coal class traffics were down in both weeks except for an increase of £11,000 on the L.N.E.R. for one week.

	51st and 52nd Weeks				Inc. or dec.	
	Pass. &c.	Goods, &c.	Coal, &c.	Total.	Year to date	%
L.M.S.R. ..	- 3,000	+ 3,000	- 55,000	- 55,000	+ 2,081,000	+ 3.61
L.N.E.R. ..	+ 3,000	- 8,000	- 37,000	- 42,000	+ 2,007,000	+ 4.75
G.W.R. ..	+ 2,000	- 11,000	- 28,000	- 37,000	+ 547,000	+ 2.25
S.R. ..	+ 17,000	- 6,500	- 21,500	- 11,000	+ 400,000	+ 2.04

Total receipts of the four companies together for the year 1934 are estimated at £148,890,000, an increase of £5,035,000 or 3.5 per cent. Passenger train traffics are £66,261,000, an increase of £934,000, merchandise traffics are £2,950,500 higher, at £52,058,500, and coal traffics are £30,570,500, an increase of £1,150,500.

\* \* \* \*

## Mr. E. Wharton, Ex-Mineral Manager, L.M.S.R.

The passing of the old year coincided with the retirement of Mr. Edward Wharton, Mineral Manager of the London Midland & Scottish Railway, and has severed another link with prominent railway officers of pre-grouping days. After his serious illness of two years ago, Mr. Wharton on his return to work received a cordial welcome from his numerous friends and acquaintances in and out of the railway world, for his position as Mineral Manager naturally brought him into contact with most of the biggest firms in the coal, iron and steel industries. What an important part these traffics are in the revenue of the London Midland & Scottish Railway, may be gathered from the fact that even in a lean year such as 1933 coal class traffic amounted to £11,599,364 or 20.13 per cent. of the total railway traffic receipts. But notwithstanding his recent recovery Mr. Wharton has elected to retire on

completing his 61st year and many business men throughout the country's industrial areas will join with his railway colleagues and us in wishing him a long and happy retirement. On page 19 of this issue we refer in more detail to Mr. Wharton's railway career and as will be seen, except for the short period when he filled the post of Assistant to the General Manager of the London & North Western Railway, the whole of his railway career has been spent in the goods and mineral departments. In former days Mr. Wharton frequently appeared as a witness before Parliamentary Committees and the Railway and Canal Commission.

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### Overseas Railway Traffics

With the latest returns, for the week ended December 29, 1934, the traffics for the first half of the Argentine railway year can be estimated. Receipts in currency for the half year show an improvement in every case, the greatest increases in pesos being 4,912,050 on the Central Argentine and 3,087,000 on the Buenos Ayres & Pacific, which, however, show decreases in sterling of £560,947 and £328,329, respectively. The Great Southern with an increase of 1,436,000 pesos has a decrease of £876,535 in sterling, and the Buenos Ayres Western is 640,000 up in pesos, but £292,777 down in sterling. The Argentine exchange for the past week averaged 17.07 pesos to the £ against 15.31 for the corresponding week in 1933.

Railway.	No. of Weekly Week. Traffics.	Increase or Decrease.	Aggregate Traffic.	Increase or Decrease.
Buenos Ayres & Pacific ..	26th 68,893	- 9,683	1,789,892	- 328,329
Buenos Ayres Great Southern ..	26th 136,790	- 35,320	3,169,460	- 876,535
Buenos Ayres Western ..	26th 43,937	- 4,724	1,082,773	- 292,777
Central Argentine ..	26th 106,652	+ 24,227	2,980,703	+ 560,947
Canadian Pacific ..	50th 506,800	+ 51,400	24,475,800	+ 2,206,000
Bombay, Baroda & Central India 38th	178,425	+ 11,850	5,741,925	+ 259,500

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### Pullman Car Results

During the year ended September 30 last the Pullman Car Co. Ltd. carried 1,162,722 passengers, an increase of 5.8 per cent. and £2,650 in supplementary fares in comparison with the previous year. Net receipts, however, were 6.8 per cent. lower mainly because of the cessation of the dining car services in Scotland. Cross-Channel air competition continued adversely to affect the company's gross takings from Continental traffic, which were £44,195 in the year under review, against £45,468 in the previous year, and £43,198 in 1931-32. In the financial year 1930-31, which included the first few days after the abandonment by Great Britain of the gold standard, on September 21, 1931, Continental traffic receipts were £73,982, against £95,158 in the previous year, and the number of Continental passengers fell from 225,635 to 161,825. For the year under review the number of Continental passengers was 92,414 against 96,203 in 1932-33. Gross receipts in 1933-34 amounted to £249,212, a decrease of £20,834 or 7.71 per cent., but in the working expenses of £186,798 a reduction was shown of £16,280 or 8.01 per cent., so that the net receipts of £62,414 were £4,554 lower. Payment of a dividend of 2½ per cent. on account of arrears on the preference shares is recommended, leaving £3,749 to be carried forward.

\* \* \* \*

### G.W.R. 1935 Renewal Programme

At the end of 1933 the G.W.R. announced its 1934 programme of additions and renewals to locomotives, rolling stock, permanent way, bridges, &c. Provision was there made for 90 new locomotives, including 10 "Castle" class four-cylinder 4-6-0's and 10 "Hall" class two-cylinder 4-6-0's, 200 passenger vehicles and 1,930 freight

vehicles, the renewal of 401 miles of line and alterations and additions to stations and buildings, the cost of the whole being estimated at over £2,000,000 in addition to expenditure on works begun in the previous year but not then completed. The company has now announced its 1935 programme and from the details published on page 26 of this issue it will be seen that the number of new locomotives to be put in hand has been increased to 95 and will include ten of the very successful "Castle" class and 15 "Hall" class engines. An outstanding feature in the rolling stock programme is the provision for two new ten-unit kitchen-car centre-corridor trains for excursion and such traffic, probably introduced in the light of the successful experience with similar trains on the L.N.E.R. during the past two years. The speeding up of freight trains will be assisted by the new fitted open, covered and container wagons. While the private builders of this country will regret the fact that the whole of the new locomotives and rolling stock is to be constructed at Swindon, nevertheless an appreciable amount of special and other parts, as well as raw materials, will be supplied from the trade as usual.

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### The L.M.S.R. 1935 Programme

Completion of the L.M.S.R. works and rolling-stock draft programme for 1935, the first part of which, concerning rolling-stock, was detailed in our issue for November 23 last, has now been announced. The scheme, taken as a whole, involves an expenditure of £9,300,000 on major replacements and improvements and includes the provision of 287 locomotives and 175 locomotive boilers, 607 passenger coaches, 20 sleeping cars, 10,050 freight wagons, and the renewal of 600 miles of permanent-way. Over £1,500,000 will be spent on other miscellaneous railway works. As already announced in our pages the new locomotives will include 10 four-cylinder 4-6-2 express locomotives of the "Princess Royal" class, 30 three-cylinder passenger and 155 mixed-traffic 4-6-0's, and 20 diesel-electric shunting locomotives, the orders for which are referred to in our Contracts and Tenders section this week. Of the freight vehicles, 1,950 were ordered from outside firms in 1934 (see our Contracts and Tenders pages for August 3, October 26, and November 23), while a considerable number of the locomotives are in hand and in course of delivery from outside firms. Others, and further rolling-stock, will provide work for the company's own shops, a division of benefit which is calculated to assist in some measure both the railway and the trade. Further details given on page 26 of this issue include the announcement that two new steamships are also to be placed in service.

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### L.M.S.R. Quota Results

"A better article at a lower price" is the description aptly applied by Mr. Ashton Davies to the railway companies' passenger fare programme for 1935, in a New Year message to readers of the L.M.S.R. *Quota News*. But this is to cast no aspersions on what was offered in 1934, for the October results published in the same issue show that passenger traffic for that month attained 100 per cent. of the quota, with freight a good second at 99 per cent. The passenger receipts have advanced by 3 per cent. over the figures for the same month of 1933, while the freight total for the same period has increased by 6 per cent. Of the fifteen passenger districts, nine exceeded their quotas, Belfast doing so with the substantial margin of twenty-four points, and, among the six which failed to attain the standard, Stoke alone, with 92 per cent., fell below by more than two points.

Others which passed the round hundred were Northampton (105); Barrow (103); Chester, Liverpool, London, and Sheffield (102); and Bristol and Dublin (101). There was a wider disparity in the freight figures, Goole leading with 110 per cent. and Dublin bringing up the rear with 58 per cent. Goole has incidentally risen from eighteenth place in August, and this marks a revival in which all the L.M.S. ports have shared.

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#### Advertising by Results

In the January issue of *On Time*, the journal of the L.M.S.R. Operating Department, Mr. C. R. Byrom refers to a form of advertisement which, although out of the hands of the commercial organisation of a railway, is the decisive factor in the promotion and maintenance of business. Consistency of working is the matter in question, and as a resolve for 1935 Mr. Byrom urges special attention to the punctuality of freight services, a form of traffic particularly dependent upon the publicity which proceeds from its own exertions. As activity increases, so do the responsibilities of those concerned with railway operation, and readers of Mr. Byrom's article will be swiftly disabused of any idea that the return of prosperity can be enjoyed without additional effort. We referred to *On Time* and its aims in our issue of December 7 last, and our concluding remarks are quoted in the editorial of the present number which records the encouraging reception accorded to the paper by its readers. Apart from its practical value, which is increased this month by the first of Mr. D. C. Urie's articles on the standard locomotives of the L.M.S.R., the publication will perform a valuable psychological service by its policy of giving greater publicity than has before been possible to the meritorious achievements of all who are concerned with the punctual operation of trains.

\* \* \* \*

#### British Railway Safety in 1934

During 1934 there were only two accidents to trains in which passengers lost their lives; those were the collision of September 6 at Port Eglinton, when six passengers were killed, and that of September 28 at Winnick Junction, when ten were killed. These two railway accidents, regrettable as they are, contrast sharply with the enormous toll of death on the road. Full official figures for road deaths in 1934 are not at the moment available, but since the weekly Ministry of Transport statistics were instituted on March 11 last no fewer than 6,098 road fatalities have been reported. Truly the railway is by far the safest place in the world. In contrast to eleven railway servants killed in six accidents in 1933, there were but seven servants killed in four accidents last year. The latter were: a ganger killed at Conwil on June 21 in a collision between a ballast engine and a motor trolley; three enginemen killed at Eglinton Junction; a guard at Winnick Junction; and the two enginemen of a passenger train derailed in collision with a road motor vehicle on November 27 at an occupation crossing at Wormley. This total of seven trainmen killed has, during the last fifteen years, been bettered only by five in 1920, four in 1922, two in 1926 and again in 1927, four in 1930, and three in 1932.

\* \* \* \*

#### Air-Conditioning on U.S.A. Railways in 1934

In the first eleven months of 1934, 1,878 air-conditioned cars were placed in service on the railways of the U.S.A. The ice system was used in 749, the direct mechanical in 531, the electro-mechanical in 401, and the steam ejector in 197, but all have ultimately the same effect

in regulating the quantity, temperature, and humidity of the air in the vehicles. Water was the most popular refrigerant, followed closely by Freon, the numbers of vehicles so treated being 946 and 931 respectively. Ammonia was not used in a single instance, and methyl-chloride in only one. As might be supposed the largest proportion of the cars treated was for the Pullman Company, namely 1,161, and the Pennsylvania came second with 116. As we have already announced, there is a large programme of air-conditioning already in hand for 1935 on the U.S.A. railways, and by the end of the year the majority of the principal expresses will incorporate this very attractive feature, which provides the advantage of fresh air and a congenial temperature regardless of external conditions.

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#### The Observation of Speed Restrictions

Engineers responsible for the safe maintenance of the permanent way on railways which do not equip their locomotives with self-recording speed indicators, are always faced with the question of what speed restriction to specify in various circumstances. If, for example, they can enforce a restriction to 10 m.p.h., they may be able to carry out a piece of work much more quickly and cheaply than if they have to allow a speed of 30 m.p.h. The enforcement of a speed restriction to a low figure in such circumstances therefore has an economic value, although it may be difficult to assess it accurately. Unfortunately no engineer in this country could risk leaving his track in such a condition that it might be actually unsafe for traffic travelling above his specified speed limit, because he has no guarantee that the limit will be observed accurately. He must always allow a fairly wide margin unless he takes very special precautions. We describe on page 12 of this issue an apparatus now used in Germany for checking the observation of speed restrictions, but it would seem that, even with this, a fair margin must be allowed unless a speed indicator is provided on the locomotive to eliminate genuine errors of judgment by the driver.

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#### New Polish Tank Engines

During the past few years the Polish State Railways have acquired some new and powerful locomotives of various types for working heavy main line traffic. These have included express passenger and freight engines built to large proportions. More recently there has been placed in service a series of large 2-10-2 two-cylinder tank engines introduced specially for working passenger trains in mountainous districts. The trains are made up of eight-wheeled vehicles and weigh from 300 to 400 tons, whereas with the engines previously used the maximum load was 230 tons. In preparing the new design measures have been taken to render the locomotives as flexible as possible for negotiating curves. Although there are ten wheels coupled, the rigid wheelbase is confined to the second, third and fourth pair of wheels in the group, the leading and trailing coupled wheels connecting with the pony trucks at each end on the well known Krauss system. Large proportions have been adopted throughout, the two cylinders having a diameter of 25 in. and piston stroke  $27\frac{1}{2}$  in. The new engines, which weigh  $116\frac{1}{2}$  tons in working order and have an adhesion weight of 83 tons, develop a maximum tractive effort of 17,200 kg. (37,926 lb.). To facilitate coasting, the main cylinders are fitted with automatic pressure regulating valves tending to smooth and quieten the running when steam is shut off. An illustrated description of these locomotives will be found on page 16 of the present issue.



## British Railways in 1934

PROBABLY the most outstanding feature of the past year, so far as the four group railway companies are concerned, has been the increase of £5,035,000 in their estimated railway traffic receipts. Incidentally, this result is a remarkable confirmation of the estimate given by Mr. W. V. Wood, Vice-President of the L.M.S.R., to the Railway Rates Tribunal on June 5 last, bearing in mind the world-wide factors which may influence the course of trade in this country. Welcome as this increase is, however, the position can be seen in better perspective when it is pointed out that, after allowing for this increase, the total railway receipts are approximately £8,000,000 below 1931, £22,000,000 below 1930, and no less than £32,000,000 below 1929. The figures indicate, of course, that there has been a gradual recovery in trade during the year, but there appears to be little improvement in international trade, the restriction of which is such an important factor in connection with railway prosperity.

The railways can fairly claim that their activities during 1934 have been of a progressive and enterprising character. Many passenger train services have been accelerated, and the popularity of the "summer" return ticket, with its reasonable fare of one penny a mile third class and freedom from restrictions as to train service, has enabled the companies to decide to make it a permanent feature of rail travel from January 1, 1935, under the style of the "monthly" return ticket, at the same third class fare, but with the first class fare still further reduced to 1½d. a mile. Other cheap travel facilities such as holiday season tickets, cruising trains, "See the Scenery" trains, ramblers' and hikers' trips, day and half-day excursions, have been well patronised, and the extension of evening trips to the country and seaside has enabled many thousands of city dwellers to obtain a change and breath of air for a few hours during sunny summer evenings at remarkably low cost. Educational and sight-seeing trips, including rail-road-river excursions have been offered to the public in great profusion, and over one hundred camping coaches have provided holiday homes at picturesque beauty spots. Improvements have been effected in passenger carrying vehicles, including the introduction of new tourist trains and buffet cars for the service of light meals. Another important innovation was the introduction by the Great Western Railway of diesel streamlined railcars, giving a fast service between Birmingham and Cardiff for business men. During 1934 inter-city air liner services for passengers, mails and parcels were introduced by Railway Air Services Limited between Liverpool, Birmingham, Cardiff, and Plymouth; Birmingham, Bristol, and Cowes; and London, Birmingham, Manchester, Belfast, and Glasgow. It is also of interest that the first railway air excursion was flown from Plymouth to Cardiff. A striking accomplishment was the remarkable run made by the L.N.E.R. on November 30 when a passenger train travelled from London to Leeds, 185·8 miles in 152 minutes with a load of 147 tons, and returned from Leeds to London with a load of 207 tons in 157 minutes, covering as much as 250 miles of the double journey at a speed of 80 m.p.h.

Freight train developments during the year included further acceleration of services, the provision of more express vacuum-fitted trains serving the principal towns in the country, and a rapid increase in the number and variety of types of containers. There was a general extension in warehouse accommodation at many places, and an increase in country lorry and railhead distribution services. The extension of the registered transit system throughout the country achieved satisfactory results.

The railway cash-on-delivery system introduced during the year, which proved a useful facility to traders; the development of industrial advisory bureaux for the assistance of manufacturers who contemplate the establishments of new factories or the removal of their undertakings to other sites; and the increase in the household removal business, are indicative of the manner in which the companies are seeking to meet the demands of the public and trading community. On the locomotive side, valuable experiments have been progressing in connection with the use of diesel units for varying types of services, while the many considerations involved in running services at unusually high speeds have been carefully investigated. Useful data in connection with streamlining of passenger stock has been secured and a good deal of research work accomplished in many other directions. Further important stretches of line were electrified during the year, and a beginning made with the modernisation of the electrified lines on Tyneside. More water softening plants have been completed, mechanical coaling plants erected, and signalling systems modernised. The bulk of the works schemes carried out under the Development (Loan Guarantees & Grants) Act, 1929, have been completed, improvements effected by the widening of lines and, as a result, the operating efficiency of the railways has appreciably increased. These manifold activities are illustrative of the railway desire to meet and anticipate the requirements of trade, commerce, and the general public and the railways will enter 1935 with the ability to deal with a considerably increased traffic with greater efficiency than ever before.

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## Railway Centenaries in 1935

A HUNDRED years ago industrial development was getting well into its stride, and it is natural that from now onward each year will see a crop of important centenaries in the field of railway promotion and construction throughout the world. Foremost in 1935 so far as Great Britain is concerned is the centenary of inception of the Great Western Railway, the first Act for which received the Royal Assent on August 1, 1835. As there is inspiration to be drawn from history, the *Great Western Railway Magazine* aptly remarks that the hundredth anniversary "will kindle as never before the interest and pride of everyone." On the European continent the same year sees the centenary of opening of both the Belgian and German railway systems. The former, which had the distinction of being the first in the world to be planned as a national system, was inaugurated on May 5, 1835, when the section from Brussels to Malines was opened. For his advisory work in connection with the construction of this line, George Stephenson was knighted by King Leopold of Belgium in the same year. Within the boundaries of the present Germany the first line to be completed was the famous Ludwigsbahn between Fürth and Nuremberg, which was opened on December 7, 1835; its centenary is to be recognised suitably by the German State Railway. In England the growing railway industry of a hundred years ago had reached that stage when it needed the services of a specialised technical journal, and we of THE RAILWAY GAZETTE can record with pride that the earliest of the papers to be merged in forming THE RAILWAY GAZETTE was established in May, 1835.

A feature of the centenaries occurring in 1935 is the number of celebrities associated with railway development who would have become centenarians this year had they survived. One of the most interesting was Sir Charles Scotter, General Manager of the London & South Western Railway, and connected originally with the Manchester,



Sheffield, and Lincolnshire Railway. His long service with the L.S.W.R. was recognised by a knighthood in 1895, and on his retirement from the general managership he was presented with his portrait painted by H. J. Wells, R.A., a gift to which there were 13,000 subscribers. Scottier was also Chairman of the Great Northern & City Railway. It is a coincidence that two Scottish-born celebrities, each of whom became Premier of Queensland and was associated with railways, were born in 1835. May 17 is the centenary of the birth of Sir Thomas McLlwraith, who went out to Australia in 1854, and began his career as civil engineer on the Government railways. On December 31, 1835, was born Sir Hugh Muir Nelson, who became Secretary for Railways when McLlwraith was Premier, subsequently rising in his turn to the premiership. New Zealand is also represented in the famous births of 1835, by Sir Julius Vogel, whose birthday was on February 24. He was Premier of New Zealand, and from 1876 to 1881 was Agent-General. During the ten years ending 1881 he was responsible for the construction of 1,200 miles of railway.

Two more centenaries are connected with the New World. George Monro Grant, a famous Canadian educationist, was born on December 22, 1835. His "Ocean to Ocean" was an interesting diary of a tour across the American continent, in connection with Sandford Fleming's surveying expedition to locate the line of the Canadian Pacific Railway. Incidentally, the C.P.R. attains its jubilee this year, as the last spike was driven at Craigellachie on November 7, 1885, thus completing the railway link from Montreal to Vancouver. Another Canadian association of 1835 is with the Grand Trunk Railway, for in that year Sir Alexander Galt, a pioneer in its development, left England for Canada to become Finance Minister. A further interesting jubilee of 1935 is December 22, the fiftieth anniversary of the opening of the Mersey Tunnel, and of the passage of the first train beneath the river. A hundred years ago there was born in America, on May 27, Charles Francis Adams, who played a great part in the development of the railway system in the United States, becoming President of the Union Pacific Railway Company and publishing "The Railroad Problem," "Railroads, their Origin and Problems," and "Notes on Railroad Accidents." Another American born in 1835 (in September) was Ethan Hitchcock, President of several railroad companies, and United States Minister to Russia. Other celebrities to the credit of 1835 were: James Kitson, Lord Airdale (September 22), a steel and iron manufacturer, Director of the North-Eastern Railway Company; Sir William Anderson (January 5), a famous engineer, designer of cranes, signals, and other fittings for railways; James Gavin Lindsay (October 21), railway engineer in Ireland; Sir Ralph Littler (October 2), a noted barrister, counsel for railway companies; and Baron de Courcel (July 30) French ambassador in London, and Chairman of the Orleans Railway.

By 1835 the first wave of piecemeal railway construction was spent, and the creation of a system of trunk lines was in hand. Joseph Locke began work in that year on the Grand Junction Railway. Locke had been articled to Stephenson, had assisted in the Liverpool & Manchester Railway, and designed the Crewe engine. There is only one opening of a local line of any importance to record, that of the main line of the Hartlepool Railway as far as Haswell on November 23. The Thornley branch had been brought into use on January 1, however, and the first shipment of Thornley coals left the new dock at Hartlepool on July 1. In the same year, Edwin Tregelles was appointed engineer of the Southampton & Salisbury Railway. William Hosking became an

F.R.I.B.A. He was an engineer on the Birmingham, Bristol & Thames Junction Railway (later the West London Railway) and designed the aqueduct and bridge by which the Paddington Canal was carried over the line, and a public road over the canal. He also planned and measured for an unbuilt Colchester-Harwich railway. William Yolland returned to England from Canada in 1835. In 1877 he was appointed Chief Inspector of Railways, and was responsible for the carrying of the Metropolitan Railway between Bishop's Road and Westbourne Park under the G.W.R. He was a member of the committee of inquiry into the Tay Bridge disaster in 1879.

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### Argentine Wage Reductions Award

FROM time to time during the past five months we have had occasion to refer to the important wages negotiations that have been proceeding in Argentina. A letter from our correspondent in Buenos Aires, briefly outlining the position up to the end of July last, was published on page 219 of our issue dated August 10, while on page 603 in the October 12 issue appeared a further summary explaining the subsequent deadlock and necessity for the submission of the whole matter to the President of the Republic for arbitration. On October 23 the President's award was announced, as notified by the cable message we published on October 26, and as briefly summarised in our Overseas columns in the November 16 issue. Now we have received from our correspondent a translation of the text of the award and reproduce it on page 34 this week. It appears, however, that the terms of the award were considered in some respects ambiguous, and widely varying interpretations were placed upon the different clauses by the opposing parties. To clarify the position, and following discussions between the Government, the companies and the unions, the Ministry of Public Works issued resolutions in regard to three of the points in dispute on December 15.

The first of these disputed points arose out of a request from the companies respecting the retentions from the pay of the enginemen, to the effect that the common fund which had ruled under the agreements signed in 1931 should be maintained, in order to enable distribution to be made in accordance with the financial situation of the different railways, as had been done up to the issue of the award. The second originated in a demand made by the unions that the application of the award should start from the beginning of the new financial year on July 1, instead of October 1. The third resolution which, from the point of view of the companies, was probably the most important of the three, had reference to the clause relating to the inclusion of debentures and mortgage obligations amongst the working expenses. In regard to the first point, the Minister of Public Works decided that, under the provisions of the award, the common fund had ceased to exist, as the award provided that any surplus over the expenses specified in that document should be applied by each company in equal proportions to exchange losses, mortgage obligations and the restoration of the salary and wage cuts. The Minister pointed out that, although the suppression of the fund might be prejudicial to some of the companies, any loss incurred in this way would be compensated by the fact that the substitution of straight salary and wage cuts for the short time arrangement previously in force, would enable the companies to obtain more work from their employees for the same cost as before. Moreover, the increasing share which had been received by some companies from the fund did not constitute a real indication of their requirements, but was due to the fact that the situation of others had improved;

if that situation continued, it might happen that, if only one company continued to have financial difficulties, it would swallow up the contributions of the staffs of all the rest. The number of men employed had been greatly reduced since 1931, the reduction being considerably in excess of the 6,000 surplus employees then estimated, and in view of all the circumstances, it was decided that each company should retain the contributions of its own staff, subject to refund under the conditions of the award.

With regard to the second point, the Minister made it clear that the unions were in error in interpreting the terms of the award to mean that the restoration of the wage retentions were to be based on the revenue returns from July 1. In laying down the principle that the working results were to be estimated in quarterly periods, the arbitrator had evidently intended the system to be applied to future periods, but even by applying the principle as from October 1, the award would become effective 23 days before it was issued. This, the Minister pointed out, was in accordance with precedent, as none of the previous agreements signed by the unions had been made

retroactive beyond the first of the month in which they were signed. In regard to sub-section (d) of Clause 3 of the award relating to the inclusion of debentures and mortgage obligations amongst the working expenses, as there was a difference of opinion in regard to the precise interpretation of this item, the Minister of Public Works was consulted as to whether the fixed charges referred to in this clause included the interest on cumulative preference shares, as also on banking and other debts of a non-mortgage character, including bearer bonds. The Minister ruled that as such bonds or loans did not entail any lien on the companies' property and were not in the nature of a mortgage, they could not be considered as coming under the provisions of Article 3 of the award, and the services on them could not therefore be included amongst the working expenses. The fog of uncertainty surrounding relations between the companies and their employees seems, therefore, to be dispersing gradually, and a clearer atmosphere, with some prospect of future settlement, appears to be heralding the dawn of a brighter New Year in Argentina.

## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

### "Sarcastic Stimulants"

Coll-Earn, Auchterarder, Perthshire.  
Christmas Day, 1934.

To the Editor of THE RAILWAY GAZETTE

SIR,—The busy bus seems now to stimulate strikingly. But "in the good old days" (as Dickens the Christmasite said it) the railway chiefs, too desk-chained by red-tape, were apt to feel that all was well in this best of worlds if you only stood still. But rank outsiders had some fun in giving hot doses like essence of ginger, betimes. At this holly-girt season of pleasant thoughts I may perhaps add to the world's fun, and also (if needs be) suggest that stimulants are called for, by a few tales.

Forty years ago lavatories were few and far. Even the Flying Scotsman only rose to two, which privily opened off two "firsts"—*reserve cuvette* for dukes and bribers. As they became more usual they still boasted (?) of little chunks of washerwoman's soap like unto wood. The day came when, what I call, "the champagne run," took place of the new East Coast Joint Stock, "the pride of Macdonald"; since my years of effort had brought to the birth fullest possible length and height coaches, six-wheeled bogies, auto-couplers and auto-vestibules, while 3½ ft. high big blazons of the Royal Arms of the two Kingdoms (of my own designing) gave uplift outside.

Present: A North British marquess, a North Eastern earl and a Great Northern viscount as chairmen and a galactic band of general managers, superintendents-of-the-line, locomotive chiefs, general riff-raff and last (? least) plenty Press (horrid word). After dinner the Rev. W. J. Scott and myself took a brand new silver cake-basket like a baby coal-scuttle and put in it one of these miniature blocks of unfrothable soap. Flinging open the dining-car door, I shouted as loud as the Toastmaster at the dinner of the Institution of Locomotive Engineers. "A deputation of the Archbishop to present alleged soap." Scott wearing his collar all proper (*i.e.*, on backwards) elevated the cake-basket above his head, as if a sacred relic, like the liquefaction of the blood of St. Januarius, and marched through the company till he sank down on one knee in front of Sir George S. Gibb and presented the wee brick of soap—the well-known kindly Gibb smile faded away.

Soon after a letter came to me in Edinburgh from that genial giant the Superintendent of the G.N.R. "You will be glad to hear I am washing with a new soap each morning; I have to test 40 makers' specimens." That was how decent train soap came. Moral—"Don't spoil the train for a ¼d. worth of soap."

Thirty years ago the famous Alnmouth curve on the N.E.R. had far too little super-elevation and in spite of severe service restrictions the drivers of the East Coast expresses at times took it in their stride and we lurched round it. When I came back from the U.S.A. where I had gone quite fast round two curves on the locomotive and one on an observation platform each with 12 inches of superelevation and in the Empire State Express had sailed round one of 8½ inches, with unspilled plates of soup around to boot, I pestered my N.E.R. friends to elevate, but in vain. One day I got a letter from Sir George S. Gibb, "You will be glad to hear we are putting up Alnmouth another 1½ inches. I have a letter from the Earl of Rothes's brother in which he says, 'I like, like everyone, to go as fast as I can but I don't like when traversing Alnmouth curve to leave my seat and rattle about in the ceiling like a pea in a bladder.'" Now this same Honble. Waldegrave Leslie had a pen as pungent as Lord Grimthorpe's (nearly, for *The Times* had in the end to stop printing the latter's letters owing to their mephitic wording) and like him wrote much clever sarcasm "To the Editor" in leading papers. Hence all this thushness for fear of passengers being scared away to their West Coast rivals.

May I add a cold thought to help? I am sure we do not yet super-elevate enough and should now wake up in view of the value of the highest speeds.

In the days of the East Coast Joint Stock the N.E.R., G.N.R., and N.B.R. each built parts thereof. The English companies lettered the label boards with those vulgar Cockneyisms, "Edinbro'" and "Edinboro'". I fought it in vain—in spite of the nonsense of having the capital of this Kingdom of Scotland spelt in three ways on the side of one train. One day, at Waverley, I stole the whole lot of boards off an express *coram populo*. Next time I went to stay with Sir George S. Gibb, I decorated the tops of his book cases all round the library with "Edinbro'", "Edinboro'" and "Edinburgh." Next day I had to meet the gigantic Superintendent of the G.N.R. at Doncaster in the new big E.C.J.S. On leaving the works I made a quick strategic move, across scores of rails, ahead and in the presence of the shocked station chiefs covered the seats of his "special" with these boards, so that when he was ushered, with all due hat-wise salutes, to his train he could not sit down till he had cleared the decks. I must say he played the game since he never said one word all the way to King's Cross. "And so we were saved" (to quote Mr. Rous-Marten's famous story) from comic vulgarisms.

Stimulated by the season,

I salute you!

NORMAN D. MACDONALD



## PUBLICATIONS RECEIVED

**American Railway Association Proceedings, Telegraph and Telephone Section.** U.S.A., 1934: Chicago, Ill. 9 in. x 6 in. x 1½ in. 803 pp. Illustrated. No price stated.—The

activities of the American Railway Association are extensive and varied, being carried on by numerous committees of experts, whose recommendations are embodied in reports and specifications subsequently discussed at meetings and voted on by letter ballot among the companies. The Telegraph and Telephone Section is one of the most important in the Association, as the bound volumes of its proceedings, which reach us from time to time, testify. Both telegraphs and telephones have become highly developed in the United States, where the long distances and other features of the railway systems early necessitated their installation, the train despatching method of working rendering constant communication between a central point and the stations on a division essential. Among the subjects dealt with in the present volume, which covers the proceedings of the sessions held in Chicago in June last, may be mentioned radio communication with moving trains, protection against electrolysis by means of rectifiers, printing telegraphs, inductive interference with communication circuits and the latest special devices and instruments in telephone engineering. Questions and answers for the maintenance staff are also given in a well chosen list. Although the A.R.A. is an official body in some ways analogous to the Clearing House, its deliberations are not kept private and anyone can make himself familiar with them and the technical work of the association by obtaining these volumes.

**Die Elektromagnetische (Induktive) Zugbeeinflussung bei der Deutschen Reichsbahn** (Inductive Automatic Train Control on the German State Railway). By Reichsbahnrat Krauskopf. Publication No. 277 of the Vereinigte Eisenbahn-Signalwerke, Berlin. Obtainable from Verlagsbuchhandlung Dr. A. Tetzlaff, Wielandstrasse 8, Berlin-Friedenau, and reprinted from two articles in *Zeitschrift für das gesamte Eisenbahn-Sicherungswesen*. 9½ in. x 12½ in. 13 pp. 27 figures. Price RM. 1.60.—In our issue of September 7, 1934, we gave a general account of the inductive automatic train control, now being extensively installed on the German State Railway, based on the first article of which this publication is a reprint. The second article contains a number of interesting particulars and the reprint combines them in attractive form, the diagrams and photographs being excellently reproduced. The principles and working of the apparatus, both on the track and the train, are fully explained, in all essential details, and the reader is left impressed by the thoroughness with which the automatic train control

problem has been taken up and dealt with in Germany, both by the railway management and the signal manufacturers, whose co-operation is so important in such an intricate subject.

Experience has led to some small modifications being made in the original equipment described in the second half of the text. It is worthy of note that speed control and absolute stop action at home signals are included in the scheme and Herr Kraus Kopf, who is in charge of this special work for the Reichsbahn and writes with authority on this controversial question, considers it not good policy to instal a partial automatic train control, able to create the impression that the security afforded is greater than it really is. He also emphasises the fact that this is not a question to be settled exclusively on an economic basis.

**Greeting Cards, Calendars and Diaries.**—In our editorial columns this week, reference is made to the many seasonable greetings in the form of Christmas and New Year cards, and calendars and diaries, which recently reached us from railway officers and representatives of transport and commercial companies in various parts of the world.

## GREETING CARDS

Among the cards may be mentioned that sent by Mr. T. H. Watermeyer, General Manager of the South African Railways and Harbours, the leading feature of which is a fine photographic view of a single track, presumably taken near Cape Town. The arms of the Union, in colour, greatly enhance the card's attractiveness.

Very pleasing, too, is the card sent by the German Railways' Information Bureau, 19, Regent Street, S.W., in which, facing some well-displayed letterpress in German and English, is a tastefully coloured and characteristic view entitled: "Christmas in the German Mountains."

A well-drawn and typically Far-Eastern figure, daintily tinted, very appropriately dominates the card of greeting sent on behalf of the Japanese Ministry of Railways, from Brettenham House, Lancaster Place, Strand, W.C.2. A red and white silken cord attachment adds to the general effectiveness.

The card forwarded by the Chairman of the Port of Bristol Authority is remarkable for a charming coloured picture, by A. Wilde Parsons, R.W.A., of H.M.S. *Daedalus* and other types of shipping in the Avon some 30 years ago.

Railway Air Services' contribution to the series takes the form of a card on which appears a view of the *Mercury* at Croydon. It is in black and white, and comes from Airway Terminus, Victoria station, S.W.

The complete list of those from whom we have received greeting cards, to all

of whom we tender our acknowledgments, is as follows:—

The Australian Commonwealth Railways Commissioner; the Belgian Air Lines; the European Manager, Canadian National Railways; German Railways Information Bureau; the General Manager, the Superintendent of the Line, the Chief Engineer, the Chief Goods Manager, the Commercial Assistant to the Chief Goods Manager, the Road Transport Superintendent, the Divisional Superintendent, Paddington, the Divisional Superintendent, Worcester, Great Western Railway; High Speed Steel Alloys Limited; Imperial Airways Limited; Institute of Transport; Japanese Ministry of Railways; the General Manager, Kenya & Uganda Railways and Harbours; the Chief Operating Manager, the Divisional Superintendent of Operation, Crewe, the Advertising and Publicity Officer, London Midland & Scottish Railway; the Passenger Manager, the District Passenger Manager, London, the Advertising Manager, the Signal and Telegraph Engineer, N.E. Area, London & North Eastern Railway; Lt.-Col. L. Manton, R.E., Commandant and Officers, Railway Training Centre, Longmoor; the Commissioner and Executive Officers, New South Wales Railways; the General Manager, Nigerian Railway; Port of Bristol Authority; the General Superintendent of Docks, Preston; the Commissioner for Railways, Queensland; Railway Air Services Limited; Retired Railway Officers' Society; Messrs. Sandberg; Skefko Ball Bearing Co. Ltd.; the General Manager, South African Railways & Harbours; the Traffic Manager, Southern Railway; J. Stone & Co. Ltd.; the General Manager, Sudan Railways; The Superheater Company.

## CALENDARS AND DIARIES

Variety is the "note" of the calendars, some of which are both striking and beautiful. Particularly is this the case with that issued by the South African Railways, which contain a series of fine photographic views of typical South African scenery, artistically mounted on a background of yellow and white, with the letterpress in black.

A clever etching by D. Newsome entitled: "The Snake Charmers," reaches us from the Indian Railways Bureau, 17, Haymarket, S.W.1. It is tastefully mounted on a white background, with a small attachment in the shape of a monthly tear-off calendar.

The assortment of diaries which has come to hand includes the well-designed and finely-produced little volume issued by the London Passenger Transport Board, 55, Broadway, S.W. It is quite up to the high standard of former years and deals, as before, with various phases of the Board's activities. Some of the street scenes are admirably done.

We acknowledge the receipt of calendars and diaries for 1935 from the following:—

Associated Equipment Co. Ltd., British Insulated Cables Limited, Canadian National Railways, S. J. Claye Limited, Craven Bros. (Manchester) Limited, D. P. Battery Co. Ltd., Dearborn Chemical Co. Ltd., Dexine Limited, Evershed & Vignoles Limited, Flowerdew & Co., German State Railway, Great Western Railway (a pocket calendar of racing fixtures), Greenwood & Batley Limited, Grosvenor, Chator & Co. Ltd., J. Holden & Co. Ltd., Imperial Airways Limited, Indian Railways Bureau, London Passenger Transport Board, Mavor & Coulson Limited, National Union of Railwaymen, Nigerian Railway, Pennsylvania Railroad, Railway Passengers Assurance Company, *Railway Review*, Thomas Robinson & Son Ltd., Ruston-Bucyrus Limited, H. J. Skelton & Co. Ltd., South African Railways, Airways & Harbours, Stenol Limited, Thames Board Mills Limited, Turner & Dunnett Limited, Vitrea Drawn Sheet Glass Co. Ltd.



## THE SCRAP HEAP

The following extract from an African guard's journal under the heading of "Special Report" shows some of the minor difficulties of railway working in the tropics:—

"Train detained at siding kilometre 7 for 25 min. because a snake was in scotch block, hence unable to open scotch block until snake driven away."

### WHAT WHITEHALL MISSED

If Lord Palmerston had not intervened, Government offices in Whitehall might have been built in the style of the Midland Grand Hotel, which it is proposed to close. In 1858 its architect, Sir George Scott, was commissioned to build new Government offices. During a working holiday at Scarborough he produced a series of studies for the offices in mixed Venetian-French-English Gothic. Palmerston rejected them and insisted that Whitehall should be classical. The studies were not wasted. Sir George used them as the basis of his plans for the Midland Grand Hotel.—From "The Evening Standard."

### A RAIL ACCIDENT SEQUEL

"Fourteen tenants of Mr. Winston Churchill, in the little fishing village of Carnlough, County Antrim, are no longer his tenants—but remain deep in his debt." In these happily chosen words *The Evening News* announced Mr. Churchill's action in converting his 14 houses in Herbert Street, Carnlough, into most acceptable "Christmas boxes." Through his agent, Mr. J. J. Wall, J.P., of Glenarm, he presented the houses to the occupants. Each house, which is in splendid repair, contains four rooms, and has a garden attached. The houses form part of the Garron Towers Estate, which Mr. Churchill inherited from Lord Herbert Vane-Tempest, who was killed in the Abermule railway disaster on January 26, 1921.

### THE TRUTH ABOUT TUNNELS

A recent article in *Le Bulletin P.L.M.* shows that the denunciations of the railway to which certain prominent figures in nineteenth century England gave vent were echoed no less fiercely on the other side of the Channel. The Frenchman is well known for his championship of the pulmonary system and the vigour with which he defends it from the insidious *courant d'air*, so that the idea of breathing the supposedly noxious atmosphere of a tunnel not unnaturally roused him. Dominique François Jean Arago, the astronomer and mathematician, bitterly opposed the

idea of carrying railways underground, and spoke as follows in a speech to the Chamber of Deputies on June 13, 1836: "I unhesitatingly maintain that in these sudden transitions (i.e., from the outer air to the atmosphere of a tunnel) persons of weak constitution will suffer—that they will contract inflammation of the lungs, pleurisy, and catarrh."

The Lübeck-Büchen Railway Company, which operates the largest private railway system in Germany, has issued the following ten "rules" for passengers:—

- (1) Secure a compartment to yourself by putting things on all the seats and then closing the door. It is then up to other passengers to find accommodation for themselves.
- (2) Always put your boots up on the opposite seat, as if you were at home. Anyone occupying it afterwards will appreciate it so much.
- (3) Don't obey any polite request from a railway servant. Take up the position that regulations, often the result of years of experience, are expressly instituted for the purpose of irritating you.
- (4) You will relish your cigar or pipe all the more if you smoke it in a non-smoking compartment where there are other travellers who dislike tobacco fumes.
- (5) Take as many packages as possible—making sure that they are large ones—into the compartment and fill up the luggage racks. Look aggrieved if anyone else wants room for something.
- (6) It is a capital practice to stop up the corridor with your luggage, for nothing is more agreeable to other passengers than to bark their shins against it.
- (7) If the train is more than a minute behind time exclaim loudly that it only happens like that on the railway, never with a motor coach, tram, boat or aeroplane.
- (8) Always maintain that railway travelling is expensive, especially if you hold a ticket at a reduced rate. When an acquaintance invited you recently to take a motor ride you had nothing to pay!
- (9) Declare that your children are only four years old, after they have started school. It increases their regard for the truth when they hear that from you at frequent intervals!
- (10) If the guard politely asks to see tickets make a great fuss about the nuisance one is subject to in this matter on the railway. You will be right. You don't need to show a ticket at a theatre, cinema, or in a tramcar!

### RAILWAY OFFICER'S NOVEL FAREWELL

Elsewhere in this issue we refer to the retirement of Mr. Edward Wharton, Mineral Manager of the London Midland & Scottish Railway. Mr. Wharton intimated his impending retirement by an ingenious Christmas card. The front bore the crest of the company and an inscription: "With Best Wishes for Christmas, New Year



Portrait on Mr. E. Wharton's farewell card, dated from Derby, December 31, 1934

and the future from the Mineral Manager and Staff," and overleaf was the photograph (reproduced above) of Mr. Wharton presumably leaving his office for the last time.

### A SUPER RECORD

From the correspondence columns of a provincial newspaper we cull the following: "About 1919 in the winter my train was 25 minutes late at Reading. Passengers with me were the fattest lady I ever saw; a pretty, very cheeky little girl, who acted a play 'on her own' upon the seat while her mother slumbered; and two maids. On leaving Reading for Paddington I looked carefully at my watch, and remarked, 'I shall miss my connection in town,' and, a little later, 'By jove, we are travelling.' We scooted through the intervening stations without slacking speed, and accomplished the 36 miles to Paddington in 26 minutes, accurately timed. This works out at 83 1-13 m.p.h., or, as a mathematically-minded young friend tells me, 83 miles 135 yards 1 foot 10-153846 inches (= 10 2-13)." But we contend that the result is not quite as accurate as it might be, for the writer fails to mention how many inches and decimals short of the buffer-stops at Paddington the engine of this flier drew up. If it did draw up at all, that is to say; for perhaps the stations through which the train "scooted without slacking speed," aided by the momentum obtained by the presence on board of "the fattest lady I ever saw," included Paddington as well.

## OVERSEAS RAILWAY AFFAIRS

*From our correspondents*

### INDIA

#### Railway Capital Programme for 1935-36

The Standing Finance Committee for Railways met at Bombay on November 30 *et seq.*, with Mr. P. R. Rau, Financial Commissioner of Railways, in the chair, to consider the capital programme for 1935-36, as prepared by the Railway Board in consultation with the various railway administrations. The committee approved of an allotment of Rs. 14.75 crores (£11.1 millions approximately), excluding the value of materials in stock, and expected to be utilised.

At a meeting in June last, the committee sanctioned the provision of Rs. 278 lakhs for the rolling stock programme for 1935-36. The programme has since been revised, and an additional sum of Rs. 2 lakhs has now been authorised on account of increased expenditure thrown forward from the current year. No provision was, however, made for general service wagons, as the Railway Board had not then completed their investigations into the number of general service wagons required in 1935-36. It is now estimated that 4,250 additional general service wagons will be necessary to cope with the increased movement of goods that has already begun and is expected to continue. The sum of Rs. 180 lakhs required for these wagons is much in excess of the provision for 1934-35, which was attenuated as the decline in traffic in previous years enabled the scrapping of a large number of wagons without replacement. The renewal programme was also postponed. Considering the present improvement in traffic, it is felt that the railways should be fully prepared to handle without the least inconvenience to the public all the traffic offering during the busy season of 1935-36. The total rolling stock programme for 1935-36 thus involves an expenditure of Rs. 4.60 crores against Rs. 3.26 in 1934-35.

The programme also includes the expenditure of Rs. 968 lakhs on open line works in 1935-36, against Rs. 900 lakhs in the current year. In addition, a sum of Rs. 64 lakhs is to be provided for works in connection with the earthquake damages and the protection of the Hardinge Bridge.

#### Discussion of Railway Labour Questions

The usual half-yearly meeting between the Railway Board and the representatives of the All-India Railwaymen's Federation opened at New Delhi on December 13, and was expected to be concluded in two days. The agenda of business included discus-

sions on the revised scales of pay, hours of employment, general railway regulations, wage cuts and staff benefit fund rules. Meetings of this kind were initiated over four years ago and have served the excellent purpose of promoting cordiality in the relations between the staff and the administrations.

### ARGENTINA

#### Electrical Engineers' Dinner

The annual meeting and dinner of the Institution of Electrical Engineers (Argentine Centre) were held in the restaurant of the Plaza Constitución (B.A.G.S.) terminus, Buenos Aires, on November 6. Mr. K. N. Eckhard, Superintendent of Electrification, Central Argentine Railway, presided at both the meeting and the dinner. The annual report and balance sheet were presented by the Honorary Secretary, Mr. R. G. Parrott, who appealed to those present to endeavour to secure new members, pointing out the educational value of the Institution to electrical engineers everywhere, in view of the extended application of electricity to practically every phase of engineering practice. It was announced that Mr. H. C. Siddeley, delegate of the British Electrical and Allied Manufacturers' Association, had presented the centre with a collection of models of the instruments and apparatus used by Faraday in his researches; and had also given a golf trophy for competition amongst the members. Mr. Eckhard was re-elected Chairman of the Centre for 1935, and Mr. Parrott Honorary Secretary; the other members of the new committee being Messrs. F. Harris, E. W. Munday, H. C. Siddeley, R. Wright, B. G. Borisow, H. J. McPhail and W. S. Wheeler.

#### Buenos Aires New Underground

As the result of a series of interruptions to the service, of almost daily occurrence, through failures of current, and two serious derailments caused by defects in the track, the new Buenos Aires underground railway from Plaza Constitución to Retiro was closed down on December 4, by order of the Municipality, pending a report by a technical committee composed of the Director of Public Works, the Director of Light and Power and the Director of Traffic. This line is being built by the "Compañía Hispano Americana de Obras Públicas y Finanzas" (usually abbreviated to C.H.A.D.O.P.Y.F.), and the first section of it was officially inaugurated on November 9. The two main points which the committee's report is to cover are the degree of safety to passengers offered by the line and service generally; and the

modifications required to eliminate any dangerous condition which may at present exist. On December 4, a train jumped the rails at Calle Moreno station, doing some damage to one of the platforms, but fortunately without causing any personal injuries.

The company's officials are reported to attribute the extraordinary number of mishaps which have occurred during the short time (less than a month) that the line has been open, to acts of sabotage, but as the Anglo-Argentine and Lacroze underground systems are working quite normally, it is difficult to understand why the new Spanish line should be singled out for malicious damage in this way. This first section is said to be characterised by a number of sharp curves and steep gradients, demanding special care in the lay-out and experience in operating, and the Municipal inspectors state that the line appears to have been opened without sufficient preliminary trials. However, as proving that there is nothing radically wrong with the line as a whole, it was re-opened a day or two later, subject to a temporary speed restriction of 12 m.p.h. and to the provision of check rails on the sharpest curves.

### BRAZIL

#### Great Western of Brazil Railway

Various timetable modifications have been introduced recently on this system, chief among them being the replacement of the day trains from Recife to Parahyba and Natal (capitals of the States of Parahyba and Rio Grande do Norte respectively) and from Recife to Maceió (capital of the State of Alagoas), by night services. The new night trains, however, run only thrice-weekly, in place of the daily day service, and one consequence of this has been the inauguration of a daily motor lorry postal service between Recife and Parahyba.

#### Central of Brazil Railway

It is now stated on good authority that the extension of the Santa Barbara branch to São José da Lagôa is expected to be opened for traffic before the end of 1935. When completed, this will enable through services to be run between Bello Horizonte and Victoria, the capitals of Minas Geraes and Espirito Santo respectively. It is anticipated that one important outcome of this extension will be the development of the iron and steel industry in Minas Geraes on account of the greater facilities the line will provide for acquiring charcoal for fuel purposes. The forests in the valley of the Rio Doce, through which the line will pass, cover an area of approximately two million hectares, two-thirds being situated in Minas; on the basis of 30 tons of charcoal per hectare, 60 million tons of fuel would be available, a stock more than sufficient for

the manufacture of the iron necessary for internal use, provided that systematic "reforestation" is carried out from time to time. The heavy goods and mineral traffic, consisting mainly of coal and other minerals, pig-iron, bricks and tiles, at present handled on the Santa Barbara branch, contributes a net revenue of over 3,000 contos (£50,000 at the official exchange rate) to the railway's annual receipts, and the extension should considerably increase this figure.

## CANADA

### Financial and Statistical Results

During the year ended December 31, 1933, the net operating revenue of Canadian Railways increased by \$423,128 in spite of the fact that gross earnings were less than half those in 1928, freight traffic was the lightest since 1915 and passenger traffic the lowest since 1907. The staff employed was reduced by 10,755 during 1933, representing a saving of \$20 million. In fact, the cost of wages and salaries was some \$119 million less than in 1928, a remarkable reduction.

A very decided improvement has, however, been manifest in 1934, during the first ten months of which year the net revenues of the Canadian National system increased by \$6,501,976, and those of the Canadian Pacific by \$3,740,888, a clear increase of \$10 million on the two railways together.

## SOUTH AFRICA

### Financial Position

Railway earnings (transportation services) for the first six months (ended September 30) of the financial year amounted to just over £13,000,000, an increase of over 1½ millions compared with the corresponding period of 1933. Similar comparison reveals an increase of only £698,381 in expenditure. The Harbour traffic figures are also satisfactory, the volume of cargo landed at the principal ports during October last being greater by 71,175 tons than during the same month of the previous year, while the tonnage shipped increased by 117,572 tons. The revenue earned by the administration's road motor services advanced from £38,963 during the month of September, 1933, to £42,750 for the same month this year, and the vehicle mileage from 419,750 to 464,733.

### Doubling of Line: Benoni-Apex-Springs

As a measure of relief of the unemployed, the doubling of this section of line has been agreed to by the administration at an estimated cost of £66,141. Towards this amount the Labour Department is to contribute the whole of the unskilled wages cost. The earthworks and culverts in connection with the work are to be proceeded with as soon as possible.

## FRANCE

### Rail and Road Co-ordination

As far as concerns the rail and road co-ordination schemes, the railway deficit is not likely to be reduced at an early date, according to the *Chronique des Transports*, which points out that seven months have passed since the co-ordination committee was formed under the decree of April 19, and so far that body has not examined a single one of the district agreements drafted by the railway and road transport authorities. The journal states that a regrettable incident has caused a further delay in the application of the regional pacts. M. Musnier, President of the Fédération des Transporteurs de France, who represents the independent goods hauliers, threatened to resign from the committee unless M. Jeandel, representing the independent passenger transporters, withdrew. Both members have now withdrawn from the committee and the Minister of Public Works has asked the groups they represent to elect other delegates to replace them. Information from various sources indicates that it is more difficult to obtain the co-operation of the goods hauliers than of the passenger carriers in the co-ordination plans.

Good progress has been made by the P.O.-Midi Railway with its co-ordination schemes. It has concluded an agreement with the road passenger transporters of the two departments, the Basses-Pyrénées and the Hautes-Pyrénées. This pact is the outcome of a more general agreement in principle between the railway and road authorities in eight adjoining departments of the south west of France and is the prelude to similar agreements in nine other contiguous departments.

In drawing up its plans, the P.O.-Midi Railway has followed a method somewhat different from that of the other railways. Instead of limiting its negotiations to single departments, it has extended them to embrace wider areas comprising several adjacent departments. It has thus constituted the following four areas: (1) Pyrénées-Orientales, Aude and Hérault departments, bordering the Mediterranean; (2) the Toulouse region; (3) the central France (Loire, Cher, Indre and Vienne departments); (4) the south west region, including the following eight departments: Basses-Pyrénées, Hautes-Pyrénées, Gironde, Landes, Gers, Lot-et-Garonne, Dordogne and part of the Charente department situated east of the Paris-Bordeaux line. The negotiations are making headway and agreements are likely to be signed soon and submitted to the co-ordination committee.

The pact already concluded in the Basses-Pyrénées and Hautes-Pyrénées areas provides for the closing to passenger traffic of five short lines totalling about 83 miles. Motor-cars on the roads will replace the train services.

Nine other lines totalling about 295 miles will be closed in part to passenger traffic. Slow trains stopping at all stations will be taken off and only direct or semi-direct expresses will be run. Traffic at intermediate points will be left to the road motor-cars. Thus, between Bayonne and Hendaye on the Spanish frontier, a distance of about 22 miles, only Biarritz and Saint-Jean-de-Luz out of the seven intermediate stations or halts will continue to be served by the long-distance expresses. This policy is calculated to reduce losses on unprofitable lines, while the public will gain by speedier travel.

## POLAND

### Week-end Holidays by Aeroplane and Railcar

To facilitate week-end holidays for Warsaw people at Zakopane, known as "The pearl of the Tatras," a combined air and railcar service has been introduced. Passengers, who may take their skis and 10 kg. of luggage, can now cover 300 odd miles between Warsaw and Zakopane in 5½ hr. The journey is made by aeroplane from Warsaw to Cracow and by railcar from Cracow to Zakopane. The price of the return ticket is 40 zlotys (about 18s. 6d.), which is less than a second-class single fare. The service was also run on Christmas Eve.

## HUNGARY

### International Austro-Hungarian Railcar Service

Negotiations between the Hungarian State Railways authorities and the Austrian Government and Federal Railways regarding a railcar service between Budapest and Vienna are now reported to have been concluded. According to the agreement, a single journey from Budapest to Vienna and back was for the time being to be made daily from December 15. The railcar leaves Budapest at 7 a.m. and reaches Vienna at 9.58 a.m. The return journey leaves at 7 p.m. and Budapest is reached at 9.58 p.m. This represents a saving of 1½ hr. in comparison with the time taken for the same journey by the ordinary express trains. The fare to Vienna, 24 pengos, is very little more than the third class fare by the fast train. Passport and customs formalities are attended to at the station of departure. It is also reported that if the venture is successful, an order will be placed with the Ganz Company for a further two vehicles\* also with 72 seats each, in order to have two return journeys daily. So far as is known, this is the first express international railcar service to be inaugurated, and it is therefore of unusual interest.

\* This type of car was described in our *Diesel Railway Traction Supplement* of November 2, 1934.



## IMPRESSIONS OF OVERSEAS TRANSPORT

### VII—The importance of Montreal as a transport centre has led to the development of many activities in which the city claims to lead the world

By A. W. ARTHURTON, Formerly Secretary, British Railways Press Bureau

**M**ENTION has already been made of Quebec as the Canadian port used by the *Empress of Britain* owing to her greater draught. The city of Quebec affords a noble panorama when viewed from the deck of the approaching liner. On the cliff stands the Citadel and near by is the Canadian Pacific Company's massive hotel, the Chateau Frontenac, reproducing in its entirety the architecture of an 18th century French chateau. Below, at the base of the crag, lie the narrow streets of Canada's ancient capital.

Montreal is one of the most important railway centres of North America and the headquarters of the two great transcontinental railway systems of Canada. The Canadian National Railways system has the longest mileage of any railway system in the world and is composed of five great railways, the Grand Trunk, the Grand Trunk Pacific (Eastern & Western), Canadian Northern, and the Intercolonial. It stretches from St. John and Halifax in the east to Vancouver and Prince Rupert on the Pacific coast, and has opened up vast new areas in Ontario and Quebec, the prairie regions and British Columbia for development and settlement. The principal C.N.R. station in Montreal is Bonaventure, a somewhat old-fashioned building. A magnificent new terminal has been designed to occupy the site of the Lagauchetière station and will cost \$50,000,000, but only the excavation for the foundations has thus far been made, the project having been postponed owing to the depression. In the meantime headquarter's offices are somewhat scattered, but the greater portion of them are in McGill Street.

Windsor Street station is situated in Dominion Square, the heart of the retail and residential section of Montreal, and is the headquarters of the Canadian Pacific Railway which, with railway lines extending from the Atlantic to the Pacific and steamship services to Great Britain and the East, is one of the world's greatest systems of transportation. The story of the building of the C.P.R. across the Continent is one of romantic achievement, dogged perseverance and marvellous feats of engineering. The construction of the line was a tremendous undertaking for a country with such a small population, but British Columbia made it a condition of joining the Confederation that a transcontinental railway should be built. The attempt almost met with disaster, more from financial causes than physical difficulties, although the latter, particularly through the Rockies, were exceptional; but Lord Mountstephen and Lord Strathcona risked all they possessed to complete the undertaking, and the first through train from Montreal to the Pacific coast was run on January 28, 1886. Apart from the importance of these great transcontinental systems in the development of Canada and the linking of the Atlantic to the Pacific, the strategic importance of these lines of communication to Great Britain in the event of any stoppage of the traffic through the Suez Canal, however temporary, cannot be over estimated. There are two other railway stations in Montreal,\* the Tunnel station of the Canadian National in Lagauchetière Street and Place Viger station of the Canadian Pacific in Place Viger Square.

Two immense bridges span the St. Lawrence at Montreal,

the Harbour, or South Shore, bridge and the Victoria bridge. The length of the former between abutments is 8,670 ft., and the total length from outlet to outlet is two miles. There are three sections—the north approach on a viaduct 1,820 ft. long, the main span crossing the ship channel to St. Helen's Island in the middle of the river, and the south approach from the island to Montreal South. The main span is a cantilever structure 1,097 ft. long, with 163 ft. of clearance for steamers passing underneath. The cost of the bridge was about \$12,000,000. It was begun in 1926, completed in 1930, and is one of the most important bridges in the world.

The Victoria bridge is the gateway to the city for the Canadian National Railways, and also carries the King Edward highway from the eastern townships and New York State. It was completed in 1859 and opened by King Edward VII (then Prince of Wales) in 1860, and was at that time considered the eighth wonder of the world. It is  $1\frac{1}{4}$  miles in length, with 23 spans of 242 ft. each, and a centre span of 333 ft. Robert Stephenson and Alex. Ross were the engineers. In 1898 the single railway track tubular bridge was replaced by a double track openwork steel bridge on the same piers, with carriageway and footwalks. In 1909 an electric railway was completed over the bridge and is operated by the Montreal and Southern Counties Railway.

Montreal claims to lead the world—as the world's greatest inland port; as the ocean port of the world's greatest inland waterway; as the world's greatest grain port; as headquarters of the world's two greatest railway systems. It is also the headquarters of the largest distillery in the world, possesses the largest cold storage and is the greatest pulp-producing centre. It boasts the world's largest seaport grain elevator, with a capacity of 4,000,000 bushels. It is the second French city in the world. Montreal is very French. There is an enormous French-speaking population, but most of the inhabitants are bi-lingual, and all public notices, as well as those on railways, street cars and buses, are in both languages.

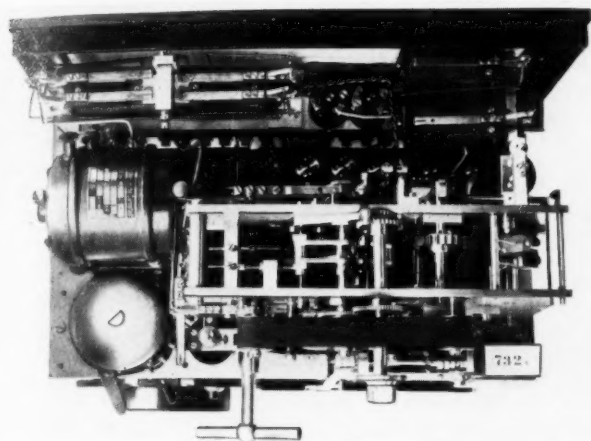
Toronto is the second city in the Dominion and is thoroughly British in its people and ideals, but is distinctly North American in the intensity of its activity and energy. Toronto Union station is jointly owned and used by the Canadian Pacific and Canadian National Railways. The Canadian Pacific's huge hotel, the Royal York, situated near the station, is the largest hotel in the British Empire. The Toronto Transportation Commission, which operates the whole of the city transport, consisting of street cars, buses and motor coaches, is, I think, worthy of an article to itself.

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**BRIDGE CONTROL FOR NEW L.N.E.R. VESSEL.**—The diesel-electric paddle boat *Talisman* now under construction by A. & J. Inglis Limited, of Glasgow, for the L.N.E.R. Clyde services is to be equipped with dual control of the motive machinery, the usual engine room controls being extended to the bridge. Diesel-electric power units for paddle ships are a comparatively recent innovation. It is anticipated that the *Talisman* will be completed in time to be commissioned for the summer services.

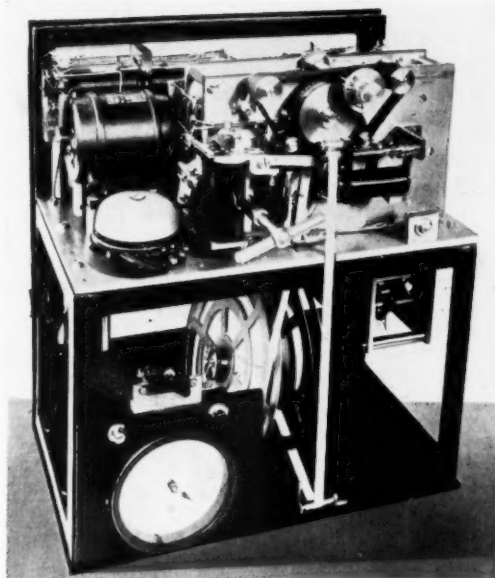
\* An article appeared in THE RAILWAY GAZETTE of November 30, on Montreal and its railways.





*Above : Top view, cover removed, of Wetzer speed recorder*

*Right : The recorder with cover removed*



In addition, the operation of relay V brings the special time relay Z into circuit. The former is made slow-releasing to prevent it from making intermittent contacts while the treadle is being worked. The relay Z has a pendulum escapement controlling the return of its armature so that it does not reach its normal position till 15 sec. after all current ceases in its coils. When excited it cuts out magnets A, K and D by opening contact *f*, and as its armature finally returns to normal it opens the circuit at contacts *b*, *b1*, long enough to release the direction selection relay U1 or U2, energised when the operations began. These relays have a slight slow release feature, sufficient to hold them when Z is picking up.

The function of U1 and U2 is to act as directional selectors and circuit the treadles in the proper sequence to the rest of the apparatus, so that it can serve for both directions of running. If treadle I is operated first, relay U1 is energised and held on a stick circuit till Z finally completes its movement. This causes treadles II and III to act as the speed recording section, but if treadle III is first worked magnet U2 is excited and causes treadles II and I to assume that function. The armature C, operating the selecting and holding contacts *g*, *a*, *d*, *h*, *i*, *e*, *m* and *l*, is moved to one side or the other according to whether U1 or U2 is energised.

The paper is moved forward after printing has taken place on the release of armature of A, which brings the disc F into friction engagement with the clockwork spindle *x*. This disc, in making one revolution, operates the contact *p* and energises magnet P long enough to pull the paper drive into engagement with the clockwork for the interval required. At the same time magnet PK, which is worked by a 0.6 sec. contact on a time device driven by the de-energisation of coil T (or by the auxiliary clock, if necessary), marks a series of dots on the paper which can be compared with similar marks engraved on the face of the tape window. By this means the accurate working of the clockwork can always be checked.

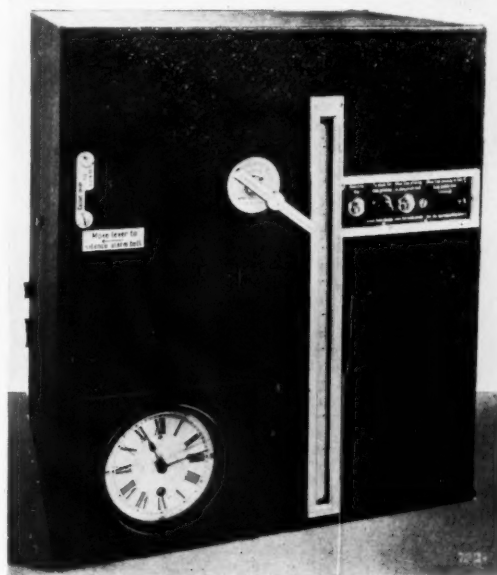
The alarm bell W, which once set in action continues to ring until stopped by the operation of a hand cut-out switch, is sounded if the projection on disc Y has not moved far enough to trip the disc U and open contact *r* by the time that printing takes place. Disc Y is adjustable so that the alarm can be set for any speed desired. Of course, the alarm can be placed in a signal cabin, or elsewhere, without affecting the principles of working.

Terminals are provided to enable the time and date wheels to be connected to an electric clock circuit, but

an auxiliary clock, seen in the photographs, can be supplied to operate the wheels if necessary, either permanently or as a reserve. Contact pushes are provided, as the diagram shows, to enable the time setting to be tested and corrected or the whole apparatus to be set to normal at will. Terminals to enable the motor which winds the clockwork to be connected to various sources of supply are fitted. There is also an auxiliary hand winding key.

About 64 of these appliances of an earlier design are in service on the German State Railway and a further 47 of the new type are, we understand, now on order. Much use is made of apparatus of this kind at places where speed restrictions due to engineering works are in force.

Information about this apparatus can be obtained from W. R. Sykes Interlocking Signal Co. Ltd., 26, Voltaire Road, Clapham, London, S.W.4.



*Wetzer printing speed recorder, used on the German State Railway, fitted with auxiliary clock*







*Three-engine-load train ascending the Rimutaka Incline.  
Note the centre rail*

diameter of the coupled wheels is 32 in., they have outside bearings, and are driven in the ordinary way by cylinders 14 in. diameter  $\times$  16 in. stroke. The boiler pressure is 160 lb. per sq. in. Four of the locomotives have Stephenson's, and two Joy's valve gear, all of them outside the frames.

In addition, there is a pair of inside cylinders, 12 in. diameter by 14 in. stroke, which drive two vertical axles, and these, in turn, are coupled to two other axles, by suitable rods and pinions. The vertical axles work in axleboxes placed in the cross frame members. Keyed to the lower ends are cast steel gripping wheels, having a flat tread. Sufficient play is allowed in the axleboxes to permit of the gripping wheels being either pressed against the centre rail for the up journey, or swung clear for the down run. This is accomplished by means of powerful compression springs, operated from the engine cab. In addition to the ordinary Westinghouse brake, the engines are equipped with four cast iron shoes on suitable levers, which also can be forced against the centre rail, pressure being applied by means of rods and a screw in the usual manner. It is, of course, very necessary that the speeds of the inside and outside engines should synchronise when hauling trains up the grade. The drivers are very expert at this.

In the Fell vans the special brake gear includes four massive upright cantilever arms, pivoted on the floor of the van. The lower ends, to which are bolted cast iron brake shoes, reach low enough to engage the centre rail. The upper ends are forked, and work in guides on the sides of gun metal nuts, which, in turn, move in or out from the centre of horizontal shafts, screwed with right and left hand threads. A large hand wheel is keyed to the centre of these screwed shafts, and, according to the

direction in which the wheels are revolved, so the cantilever arms press the brake shoes against the centre rail, or move them away from it. So severe is the service demanded of this braking system that a set of blocks rarely lasts more than one trip down the incline.

When a train is about to climb the incline, the practice is for each Fell locomotive to be placed at the head of its respective load at Cross Creek, and the leading Fell engine draws ahead with its load to the beginning of the centre rail, against which the centre engine grip wheels are compressed. The second engine next draws up with its load and is coupled up in rear of the first portion. In like manner, a third or fourth Fell engine and load will be attached, the requisite number of Fell vans being placed on the rear of the train. When the whole train has been coupled up, the Westinghouse brake is tested throughout the train, and a start is made up the three-mile climb. As the second and the successive engines reach the centre rail, the inside engines are put into operation.

An investigation was made by the Engineer-in-Chief of the New Zealand Public Works Department in 1923 to ascertain whether it was feasible to provide an alternative alignment with easier gradients such that ordinary traction methods could be used, but it was found that the additional interest costs involved would about balance the savings secured by the easier method of operation—approximately £45,000 per annum in each case—as the deviation would be heavy in tunnelling and other construction costs.

Owing to the serious road competition suffered on this route, encouraged by the delays to trains on the Rimutaka Incline, the Railways Board recently introduced what is probably the lowest standard fare ever adopted in New Zealand, namely, 7s. 6d. first class return and 5s. second class return for the run between Wellington and Masterton (66 miles). The result has been to bring back to the rail almost the whole of the ordinary passenger traffic between Wellington and the Wairarapa. Also the possibilities of railcar operation over the existing incline were shown by the recent trials recorded in THE RAILWAY GAZETTE of April 6, 1934 (page 573).



*"Siberia" wind-shield on the Rimutaka Incline*

## NEW 2-10-2 TYPE LOCOMOTIVES FOR THE POLISH STATE RAILWAYS

*These engines have been introduced specially for working passenger trains in mountainous districts*

THE accompanying illustration shows one of the 2-10-2 type tank locomotives recently built by the firm of H. Cegielski of Posen for hauling express trains of a heavier formation than those at present being operated. The cylinders drive the third pair of coupled wheels, and steam distribution is effected by super-

signed to reduce wear. The engines are fitted with Westinghouse brake apparatus, as well as a hand brake and compressed air sanding apparatus.

The weight of the engines in working order is 116½ tons, of which 83 tons rank for adhesion. The maximum tractive effort is 17,200 kg. (37,926 lb.). With the



imposed piston valves actuated by the Heusinger modification of the Walschaerts valve gear. The boiler, which is of large proportions, is equipped with Schmidt superheating apparatus, and the firebox is of the round-topped pattern, with the outer casing shaped from a single plate. The furnace door is of the Marcotty type opening inwards and provided with channels for supplementary air. The ashpan, which is located above the fourth and fifth coupled axles, has two dampers at the front and two behind, all operated from the driver's cab. To facilitate cleaning, two discharge openings are provided, and, to prevent these being inadvertently opened while the engine is running, the operating mechanism can be worked only from ground level.

The boiler is fed by two Friedmann injectors through check valves located at the forward end. The feed water on its way to the boiler passes through a water purifying device incorporating a mud collector into which the residue falls and can be discharged by means of a special fitting operated from the side of the locomotive. The regulator valve, of the Swedish pattern, is placed inside the steam dome and incorporates a steam intercepting device. The boiler carries a working pressure of 213 lb. per sq. in.

The main cylinders of the locomotive are fitted with automatic pressure regulating valves for use when coasting. The main frames are of the bar pattern and the crossheads are fitted with spherical gudgeon pins, de-

bunkers full, six tons of coal are carried and the tanks hold 2,200 gallons of water.

The main particulars are as follow:—

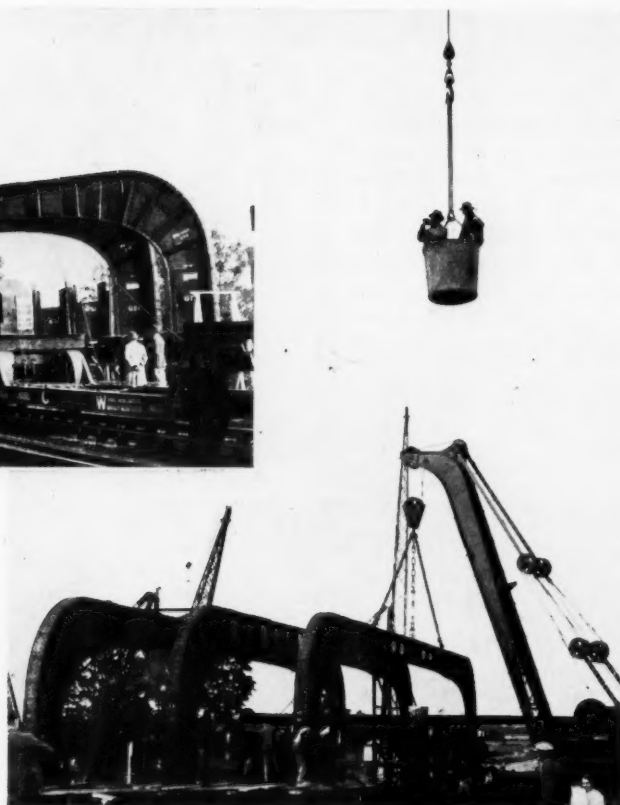
Cylinders (2) dia.	..	..	..	25 in.
Piston stroke	..	..	..	27½ in.
Wheels coupled dia.	..	..	..	4 ft 9 in.
Wheels truck dia.	..	..	..	2 ft. 9½ in.
Wheelbase total	..	..	..	38 ft. 4½ in.
Heating surface—				
Firebox	..	..	..	145 sq. ft.
Tubes	..	..	..	1,053 sq. ft.
Smoketubes	..	..	..	759 sq. ft.
Total	..	..	..	1,957 sq. ft.
Superheater	..	..	..	710 sq. ft.
Combined total	..	..	..	2,667 sq. ft.
Grate area	..	..	..	40.8 sq. ft.

Lubrication of the cylinders and axleboxes is by the Friedmann mechanical system, from lubricators placed on the running board at the rear of the side water tanks. A turbo-generator supplies current for the head and tail lamps, and also for illuminating the interior of the cab. The equipment further includes a Teloc tachometer connecting with the trailing coupled axle. In addition, the engine is fitted with steam heating apparatus for train warming. Hollow axles are used throughout. Those of the coupled wheels are bored to a diameter of approximately 4 in., and the truck axles to approximately 3 in. The leading and trailing wheels are incorporated in Krauss trucks.





*Above: lowering one of the girders into position; right: supervising the work from a crane bucket; below: the seven girders in position with the cross bracing being fixed*



**RIGID-FRAME ROAD BRIDGE OVER THE G.W.R. MAIN LINE NEAR OXFORD** (See article on page 22)

*Right: Streamlined locomotive on the 3 ft. 6 in. gauge Japanese Government Railways, converted from a standard Pacific, on a test run from Osaka to Nagoya, a distance of about 110 miles. A speed of 60 m.p.h. is said to have been sustained*



*Above: The illuminated decorations in the booking hall at Charing Cross station (London Transport) which conveyed the board's good wishes to its patrons this Christmas*

*Left: Transformation scene on "the lawn" at Paddington station for the Christmas holiday traffic. The 30-ft. tree and its attendant ornaments were described in an editorial note in our issue of December 21*

## RAILWAY NEWS SECTION

### PERSONAL

Mr. Robert Holland-Martin, C.B., the Deputy Chairman of the Southern Railway Company, has been elected Chairman in the place of Lord Wakehurst, who has resigned the Chairmanship but will continue as a Director. Mr. Eric Gore-Browne, D.S.O., has been elected Deputy Chairman of the Company.

#### NEW YEAR HONOURS

##### Baron

Lieutenant-Colonel Sir Wyndham Raymond Portal, Bt., D.S.O., M.V.O., J.P., D.L., a Director of the Great Western Railway Company.

##### Baronet

Mr. Richard Durning Holt, LL.D., J.P., Chairman of the Mersey Docks & Harbour Board and of Elder Dempster Lines.

##### Knights Bachelor

Mr. Charles Herbert Bressey, C.B., C.B.E., F.S.I., Chief Engineer, Roads Department, Ministry of Transport.

Mr. James Williamson, Agent of the Bengal & North Western and Rohilkund & Kumaon Railways. President, Indian Railway Conference Association 1934-35.

##### M.V.O. (Fifth Class)

Mr. William Reginald Busbridge, M.B.E., Chief Stationmaster, Dover, Southern Railway.

##### G.C.B. (Civil Division)

Sir Josiah Stamp, G.B.E., D.Sc., Sc.D., LL.D., F.B.A., Chairman and President of the Executive Committee, London Midland & Scottish Railway.

##### C.M.G.

Mr. Herbert Harry Sterling, LL.B., Chairman, Government Railways Board, New Zealand.

##### K.C.I.E.

Sir Alfred Alan Lethbridge Parsons, Kt., C.I.E., I.C.S. (retired), Member of the Council of India and late Financial Commissioner, Indian Railway Board.

##### C.B.E. (Civil Division)

Mr. Harold Chalmers Mansfield Austen, O.B.E., General Manager and Engineer, Mauritius Government Railways.

Mr. Walter Eraut, M.Inst.C.E., Chief Engineer, Contracts Branch, Crown Agents for the Colonies.

##### O.B.E. (Civil Division)

Mr. Kenneth Lancelot Macaulay, Chief Accountant, Ministry of Transport.

Mr. Alfred Edward Robert Mayne, Chief Accountant, Kenya & Uganda Railways & Harbours.

##### M.B.E. (Civil Division)

Miss Sarah Feeney, Grand Trunk and Canadian National Railways.

Mr. Harold Eldric Hypher, Assistant Engineer, Bengal & North Western Railway.

Mr. Henry James Smyth, Assistant Engineer, Bengal & North Western Railway.



Mr. Ernest Wharton,

Mineral Manager, L.M.S.R., 1926-34

Mr. Henry James Walker, Office Assistant to the Chief Engineer, Kenya & Uganda Railways & Harbours.

Mr. G. E. Cuffe, Agent and General Manager, Assam Railways & Trading Co. Ltd., has been appointed to succeed Mr. R. L. Bliss as Agent of the Assam-Bengal Railway, upon his retirement at the end of February next. Mr. Bliss, on return to England, will take the seat on the Board of Directors rendered vacant by the retirement of Mr. R. S. Strachey—also a former Agent of the railway in India—due to pressure of other business.

Mr. Ernest Wharton, who has been Mineral Manager of the London Midland & Scottish Railway since 1926, retired on December 31. He entered the service of the London & North Western Railway over 40 years ago, and subsequently held appointments at many of the principal centres on that system. He was for some time District Goods Manager at Warrington, during which period great difficulties had not only to be faced but surmounted in connection with the strikes in the railway world and in the coal and cotton industries. He was subsequently District Goods Manager at Birmingham, and in 1919 was appointed Mineral Traffic Manager. Two years later, when the London & North Western and Lancashire & Yorkshire Railways were amalgamated as from January, 1922, he was appointed Assistant General Manager (Staff), and on the formation of the London Midland & Scottish Railway in 1923, he was appointed Assistant Mineral Manager, succeeding Mr. A. W. Allen as Mineral Manager in 1926.

Colonel W. R. Izat, Managing Director, Bengal & North Western Railway, arrived in India in the middle of November, 1934, and will be in the country for a period of about 2½ months.

#### MINISTRY OF TRANSPORT, RAILWAY APPOINTMENT

The Ministry of Transport announces that Major G. R. S. Wilson, R.E., has been appointed as an Assistant Inspecting Officer of Railways as from January 1, 1935.

Mr. H. C. King-Stephens, who, as announced in THE RAILWAY GAZETTE of November 30, has been appointed Agent General in France for the British Railways, was educated at Bradfield College, at the Lycée Carnot, Paris, and at the Grossherzogliches Gymnasium, Eutin, Germany. He entered the Continental Department of the London Chatham & Dover Railway in 1897 and was transferred to the General Manager's office in 1911. During the war he served with the British Military Railway Mission to Russia and Roumania, 1917-19, and was promoted Captain in 1918. He was decorated with the orders of the Crown of Roumania, the Star of Roumania



and of Stanilas (Russian). In 1919 Mr. King-Stephens was appointed Secretary to the Commission for the Subdivision of Rolling Stock of the late Austro-Hungarian Monarchy in Vienna, under Sir Francis Dent, and in the following year became South Eastern & Chatham Agent for

Mr. M. A. Cameron, who, as announced in THE RAILWAY GAZETTE of December 14, has been appointed Assistant District Passenger Manager, London, L.N.E.R., is the son of Dr. M. B. Cameron, C.I.E., D.Litt., late Vice-Chancellor of Lucknow University, India. He was educated at

special section for dealing with pooling arrangements and was closely concerned with the mechanisation of the accounting work in the parcels offices at King's Cross, Liverpool Street and Nottingham, Victoria. He was in charge of the Northern Belle during the tours in 1934.



**Mr. H. C. King-Stephens,**  
Appointed Agent General in France  
for the British Railways



**Mr. W. Powell,**  
Appointed District Goods Manager,  
Newport, G.W.R.



**Mr. H. D. Anderson, M.Inst.T.,**  
Assistant Divisional Superintendent,  
London Division, G.W.R., 1917-35



**Mr. M. A. Cameron,**  
Appointed Assistant District Passenger Manager,  
London, L.N.E.R.



**Mr. A. M. Newbold,**  
Appointed General Agent for Belgium,  
Southern Railway



**Mr. J. D. Zieske,**  
Appointed General Agent for Germany,  
Southern Railway

Germany in Cologne. It was in 1929 that he was appointed Southern Railway General Agent for Germany and Belgium in Brussels, the position he now vacates to take up his new duties as representative of all the British main line railways in Paris. Mr. King-Stephens also holds the Belgian decorations of the Order of the Crown (awarded in 1917) and Order of Leopold (awarded in 1934.)

Fettes College and Edinburgh University and joined the London & North Eastern Railway in 1923. Subsequently he gained experience as a traffic apprentice and as temporary Assistant Yardmaster West Hartlepool (1929), and, after a brief period in the Chief General Manager's office, joined the office of the Passenger Manager, Southern Area. In 1933 Mr. Cameron was made head of the

Mr. W. Powell, who as announced in THE RAILWAY GAZETTE of December 21 has been appointed District Goods Manager, Newport, G.W.R., in succession to the late Mr. R. H. K. Blackwell, entered the service of the Great Western Railway in the District Goods Manager's Office at Cardiff in 1896, and, after gaining experience in the various sections of that office, was appointed Chief Clerk in 1919. In the

following year he was transferred to the Plymouth District, and, after gaining outdoor experience, became Chief Clerk to the Exeter District Traffic Manager in 1924. Since September, 1930, Mr. Powell has been Assistant District Goods Manager at Cardiff.

Mr. H. D. Anderson, M.Inst.T., who retires to-day, January 4, from the position of Assistant Divisional Superintendent, London Division, G.W.R., after completing forty-three years' service, entered the office of the Superintendent of the Line at the age of sixteen in 1891. He was engaged in the New Works and Staff Departments for a number of years, and was then transferred to the Rules and Accident Department and was associated with the formation and organisation of the signalling classes, becoming a lecturer and eventually examiner for these classes throughout the system. He represented the company at the Railway Clearing House on various committees dealing with rules and regulations, and also acted as secretary of the G.W.R. rules and regulations special committee from 1912 until his appointment as Chief Clerk to the London Divisional Superintendent in 1916. In the following year he was appointed to his present position. Mr. Anderson has also attended the meetings of the West London Extension officers' conference since 1917, and has acted as secretary of the conference since 1920. He also acted as chairman of the departmental co-ordination committee which arranged the carrying out of the work in connection with the large scheme of alterations between Old Oak Common and Paddington in over eighty stages, and the reconstruction of Didcot station in over fifty stages, the whole of which work was carried out without a hitch. Mr. Anderson was one of the founders of the Great Western Railway Lecture and Debating Society, and served on the committee for over twenty years. He also assisted in the formation of the G.W.R. (London) Operatic Society, and has filled the office of treasurer of that society since its formation. During the war he was associated with and received a commission in the Great Western Company of the 19th County of London Volunteers. Mr. Anderson is interested in Freemasonry and is at present Worshipful Master of the West Middlesex Lodge, No. 1612. Throughout the whole of his railway career he never had occasion to draw any sick pay in consequence of absence through illness.

Mr. A. M. Newbold, who, as announced in THE RAILWAY GAZETTE of November 30, has been appointed Southern Railway General Agent for Belgium in Brussels, joined the Audit Office of the South Eastern & Chatham Railway in 1912, but was soon transferred to the office of the Superintendent of the Line. From 1915-19 he was on military service, after which

he was attached first to the Boulogne-sur-Mer and then to the Dunkerque office of the Richborough Train Ferry and Barge Service for evacuation of war material under joint arrangement between the S.E. & C.R. and the Ministry of Munitions. In 1920 Mr. Newbold was transferred to the S.E. & C.R. Brussels Agency, where he became Chief Clerk three years later under Southern Railway auspices. In 1929 he was promoted to be Assistant General Agent, Brussels, the position he now vacates to become General Agent for Belgium.

Mr. J. D. Ziescke, who, as announced in our issue of November 30, has been appointed General Agent for Germany, Southern Railway, with headquarters at Cologne, was educated at the High School in that city. He was subsequently employed in commercial business in Germany and, during 1898-1900, in Liverpool and London. In the latter year he joined the South Eastern & Chatham Railway as a clerk at its General Agency in Cologne and rose to be Chief Clerk there in 1920. In 1931 Mr. Ziescke was promoted to be Assistant Agent at the Cologne General Agency, Southern Railway, which position he now vacates to become General Agent. From 1910 until the outbreak of war he was Acting British Consul at Cologne.

We regret to note the death, on December 28, of Sir Herbert Gibson, Bart., K.B.E., Chairman of the Local Board, Buenos Ayres Great Southern Railway. Sir Herbert was born in 1863 and was educated in England. Subsequently he became an influential stock breeder and landowner in Argentina, where his family has owned property for well over a century. He represented Argentina at the International Commercial Congress at Philadelphia in 1899, and during the war was Wheat Commissioner for Argentina and Uruguay. For the valuable services he rendered to the British Government in this capacity he was rewarded with the K.B.E. in 1919. Sir Herbert was Chairman of the British Chamber of Commerce in the Republic and was appointed a Local Director of the B.A.G.S. Railway in 1928. Three years later he was elected Chairman of the Local Board, and in 1931 also, he was Chairman of the Committee in Buenos Aires of the British Empire Trade Fair, and was the recipient of a baronetcy for his valuable services in that connection. A brilliant orator, scholar and an expert agriculturalist, his loss will be deeply felt in Argentina.

Prior to his departure from Glasgow to take up the position of Assistant Engineer (Maintenance), Southern Area, L.N.E.R., Mr. J. C. L. Train was the recipient, from his colleagues of the Scottish Area and the Staff of

the Western District, gifts including a water-colour of Loch Scavaig painted by Drummond Fish. The presentation was made by Mr. George Mills, General Manager for Scotland, L.N.E.R.

#### L.M.S. APPOINTMENTS

The following appointments have been approved by the Directors:—

#### Scottish Changes.

Mr. J. Keyden, District Locomotive Superintendent, Polmadie, to be Assistant to Divisional Superintendent of Motive Power, Operating Manager's Office, Glasgow.

Mr. D. Dobbie, Assistant Works Superintendent, Glasgow (St. Rollox), to be District Locomotive Superintendent, Polmadie.

Mr. Sam Mavor retired, on December 31, from the position of Managing Director of Mavor & Coulson Limited, engineers, of Glasgow, but retains the Chairmanship of the company.

Lord Greenwood, Chairman of Dorman Long & Co. Ltd., has accepted the Chairmanship of the Management Committee of the London Iron and Steel Exchange in succession to Sir William Firth, as from January 1.

It is with regret that we learn of the death, on December 30, of Mr. George Miles, who retired from the post of District Goods Manager, Reading, G.W.R., in March, 1917, after 43 years of service. Mr. Miles was 83 years of age.

Mr. J. H. Follows, who retired from the Vice-Presidency of the London Midland & Scottish Railway in 1932, has accepted the invitation of the Minister of Agriculture to be an Impartial Member of the Derbyshire Agricultural Wages Board, and of the Unemployment Assistance Board to be its representative on the Appeal Tribunal set up under the Unemployment Assistance Act, 1934, for Derby. Mr. Follows is already a County Magistrate for Derbyshire and Chairman of the Juvenile Court, Belper Petty Sessional Division.

We regret to record the death, on December 29, of Sir Arthur Fell, at the age of 84. He was born in New Zealand, educated at King's College School, London, and Oxford, and was admitted a solicitor in 1874. He represented Great Yarmouth as Conservative Member from 1906 to 1922, and was knighted in 1918. Sir Arthur was the founder of the House of Commons Channel Tunnel Committee of which he was sometime Chairman and also Honorary President. As lately as 1930 he publicly confirmed his opinion that the tunnel was the most important work remaining to be done on this globe since the construction of the Suez Canal.

## An Unusual Overline Bridge

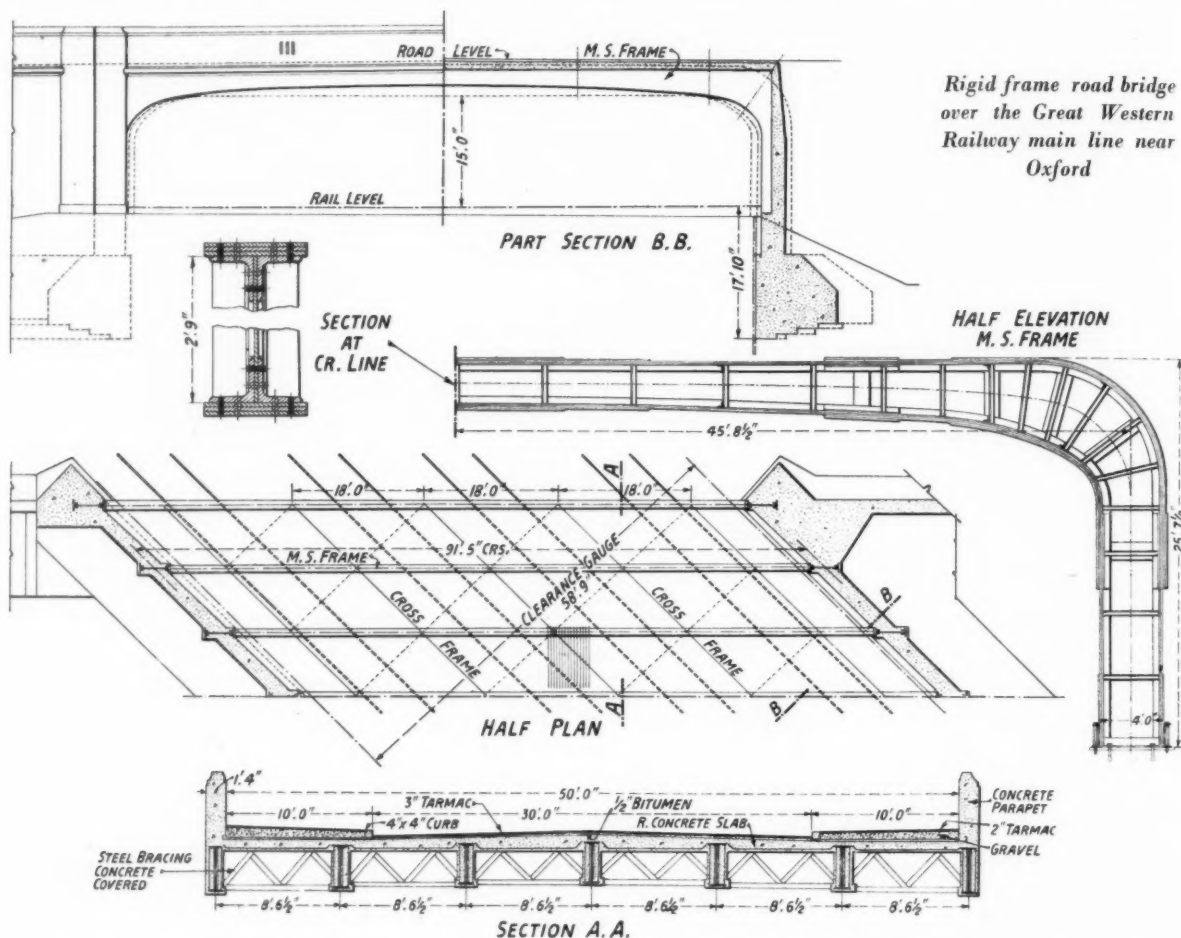
(See illustrations on page 17)

What is probably the first steel rigid-frame bridge in this country has recently been erected to carry the new Oxford Northern by-pass road

The girders, which are rigidly braced together, carry a 9-in. reinforced concrete deck with a 3-in. tarmac coating. Although each weighed about 19 tons,

and made secure, was from six to eight minutes.

The chief engineers responsible for this bridge were the City Engineer of Oxford and the County Surveyor of Oxfordshire. The design was checked and approved by the Chief Engineer of the Great Western Railway, whose



Rigid frame road bridge  
over the Great Western  
Railway main line near  
Oxford

over the Great Western main line at Wolvercote, just north of Oxford. The bridge was designed by Mr. G. T. Bennett, County Surveyor of Oxfordshire with a view to saving height in the approach embankments. The clear span of the bridge on the skew over the railway is 87 ft. and by means of this design the depth of the girders at the centre is only 2 ft. 9 in., which has made possible a saving of about 5 ft. in the height of the approaches. The square span of the bridge across the railway is 46 ft.

The bridge is composed of seven steel ribs of the portal girder type, and the total overall height from the base of the stanchions to the top of the flange plate is 26 ft. The stanchions are rigidly fixed to a concrete base 87 ft. long by 14 ft. 6 in. wide and 12 ft. deep, by 3 in. and 2½ in. diameter bolts 10 ft. 6 in. long, with anchor plates set in the concrete.

they were lifted direct from railway wagons and fixed to the previously erected upright stanchions by crane. The time taken from the moment of lifting each girder till it was slewed round and the ends threaded into place

staff also assisted in the erection of the main girders. The steelwork was provided by the Fairfield Shipbuilding & Engineering Co. Ltd., of Chepstow, and the main contractors were Aubrey Watson Limited, of Westminster.

## Exports of Railway Material from the U.K. in Nov.

	Nov., 1934	Nov., 1933	Eleven Months Ending	
			Nov., 1934	Nov., 1933
Locomotives, rail .. .. .	£ 107,733	£ 1,165	£ 340,615	£ 720,041
Carriages and wagons .. .. .	107,141	82,947	824,760	487,785
Rails, steel .. .. .	73,888	24,522	965,708	509,160
Wheels, sleepers, fishplates and miscellaneous materials .. .. .	108,252	109,766	1,097,350	746,745
Locomotive and rail exports included the following:—				
	Locomotives		Rails	
	Nov., 1934	Nov., 1933	Nov., 1934	Nov., 1933
Argentina .. .. .	£ —	£ —	£ 7,066	£ 7,433
Union of South Africa .. .. .	—	—	45,588	23,719
British India .. .. .	—	—	32,017	22,278



## Colour Control of Limit Gauging\*

A problem confronting the author a few years ago was how to identify and use limit gauges with safety in a country—the Sudan—where European letters and figures had no significance and in workshops employing upwards of 1,500 natives, mostly illiterate. At a much earlier period he had experienced difficulty in workshops in this country, through operators selecting wrong gauges for certain machining processes, such gauges being very similar in appearance and identifiable by means of letters and figures. The difficulty in this instance was readily overcome by attaching to each gauge a coloured label which indicated the particular purpose for which it was required. It was realised that colours had many advantages over figures and letters for safe and rapid identification, and it was, therefore, decided to apply colour methods to the Sudan problem.

Preliminary experiments were made in various departments to ascertain how the native mind reacted to colours; for example, a colour system was inaugurated for keeping separate the rises, headers and cuttings from standard brass mixtures. The results obtained were so successful and encouraging that it was decided to proceed along similar lines to the more difficult task of controlling limit gauges by means of colours. The Sudan Railways at that time had no information as to the condition of the valve gear on the 168 engines in service, and it was considered desirable, in the first place, to obtain data showing the extent to which valve gear members were already worn, and from this data to build up a gauging system. An additional reason for carrying out this preliminary survey was to give the natives some idea of accuracy and to train them in the use of measuring devices.

For this purpose valve gear diagrams were prepared for each class of engine. Each pin was given a serial number and corresponding data sheets were prepared for each engine in service. The sizes to which the various holes were worn was measured and recorded on these engine data sheets and a general indication of the range of sizes to be covered by the system was thus available. Much useful information was revealed by these data sheets, and it was possible to make interesting comparisons between the various engines in service.

### Range of Sizes and Limits

When this preliminary investigation was complete the preparation of the tables of limits and the manufacture of the gauges was proceeded with. The engines in service had pins of the following nominal diameters:  $1\frac{1}{2}$  in.,

$1\frac{3}{4}$  in.,  $1\frac{1}{2}$  in., and 2 in. To prolong the useful life of the valve gears and to reduce grinding times to a minimum, it was decided to make the increments or steps in the system  $5/1,000$  in. It was also decided for other reasons to supply gauges of  $1\frac{1}{2}$  in. nominal diameter in addition to the foregoing four sizes, thus giving a complete range from  $1\frac{1}{2}$  in. to 2 in. diameter. With the two classes of holes involved—the running and fixing holes—this gave a total of 240 plug limit gauges varying in increments of  $5/1,000$  in. in diameter.

It might at first be anticipated that in a system of this kind a very large number of colours would be necessary to control a total of 240 sizes, but actually few colours are required. The colour for each nominal diameter of pin was as follows:— $1\frac{1}{2}$  in. grey;  $1\frac{3}{4}$  in. cream;  $1\frac{1}{2}$  in. black;  $1\frac{1}{2}$  in. rose; 2 in. brown. These are termed "group" colours. To avoid a multiplicity of colours, and for reasons to be given later, each group was sub-divided into four series, denoted by a separate colour—orange. The first series was plain, the second series had one orange band, the third two orange bands, and the fourth three orange bands. In each series were six steps, each increasing by  $5/1,000$  in., coloured respectively white, blue, red, green, mauve, and yellow. The white step of the first series always indicated a new pin or hole of the original dimension.

It will thus be gathered that twelve colours were sufficient to control the full complement of 240 gauges and two or three colours were the maximum used on any one gauge. As far as possible prime colours only were used and shades of the same colour were carefully avoided. To protect the paint in use it was housed in recesses provided in the gauges; this is an important point, for experience showed that the application of paint to ordinary gauges was not satisfactory.

### The System in Operation

The routine for valve gear repairs and the manner in which the colour control of the gauges functioned may now be described. All valve gear details, after cleaning, were placed on the inspection bench. A native inspector used the coloured step gauge to ascertain the sizes in terms of colour to which the various holes should be finished. As the correct colour size of each hole was ascertained, a disc of the corresponding colour was attached to each valve number adjacent to the hole, by means of a wire which was lead sealed with the inspector's number. For a running hole a circular disc was used and for a fixing hole an oval disc, and these shapes matched the recesses in the ends of the plug gauges. In this manner it was rapidly possible to colour-label a complete set of valve gear. Should

the step gauge of the second series drop through any hole, it indicated that the case-hardening was worn away, and the valve member was forthwith despatched for heat treatment. If the step gauge of the fourth series went through the hole it indicated the scrapping size.

When grinding any particular hole, the operator used the coloured plug gauge which corresponded with the coloured disc attached to the hole concerned. As the various valve gear members were completed they were returned to the left hand side of the inspection bench, still having the coloured discs intact. The native inspector then passed the hole and pins for size, and entered particulars of the gauge used for future reference on the motion record sheet of the engine concerned. Last of all, the lead seal attaching the colour disc to the hole was broken and the disc handed back to the gauge room for future use.

### Results and Conclusions

The system worked with surprising simplicity and overcame the inconvenience and difficulties often encountered with similar systems controlled by figures and letters. With colour control the work flowed uniformly through the various sections and removed "bottle necks" which had previously existed. Practically no supervision was required, for the coloured discs enabled the foreman to tell at a glance if the correct gauge was in use. Colours offer a simple and effective solution to problems of the kind referred to, and the Sudan application, combined with subsequent research and experiments, shows that they possess the following advantages compared with figures and letters as used for such purposes:—

- (1) Colours make a psychological appeal to the user.
- (2) They stimulate production and increase the output.
- (3) Colours are always the right way up and much safer to use than figures or letters.
- (4) Colour control eliminates clerical work and avoids shop forms.
- (5) Supervision is much assisted by colour control.
- (6) Colours facilitate the flow of work through the various departments.
- (7) Storage problems are simplified by colour methods.
- (8) Coloured gauges command more respect in use than those uncoloured and have a longer life.
- (9) Colours can be identified three to four times more quickly than figures or letters.
- (10) Colours are a universal language and have international significance.

In conclusion, it should be stated that the system has since been extended to other railway details, and has been applied to other fields of industry.

**NEW G.W.R. HALT.**—A halt at Tynycwm, between Rogerstone and Risca stations, is to be built by the G.W.R. This new halt will provide rail facilities for some 5,000 persons living in the villages of Ty Isaf, Pontyminster and Tynycwm.

\* Abstract of a paper entitled "A System of Limit Gauging Controlled by Colours with special reference to Valve Gear Maintenance," read by Mr. G. L. Murray to the Institution of Locomotive Engineers on Thursday, January 3.

## NEW YEAR MESSAGES

**Sir RALPH L. WEDGWOOD,**  
C.B., C.M.G., Chairman, Railway  
General Managers' Conference,  
1935

The British railway companies have never been so conscious of their responsibilities as public servants as they are at the present day. They realise that the revenues and future well-being of their undertakings depend upon the service they render and the public appreciation of it. Each year brings some change in the requirements of the public, and that in turn demands change and progress in railway methods, together with a constantly improving level in the efficiency and variety of railway service. It is the object of the British railways in the forthcoming year to meet this demand in full measure and thereby to deserve, at least if they cannot command, a steady advance in that development of their business which has been so welcome a feature of 1934.

**Sir JAMES MILNE,**  
General Manager, Great Western  
Railway

The New Year is of special interest to all those associated with the Great Western Railway, as it marks the hundredth year of the company's existence. The anniversary occurs on August 31, and I am taking this early opportunity of reminding the staff of the historic occasion and of asking every member to redouble his efforts to further the company's interests, so that by the time this important date arrives we may be able to say that the company's fortunes are well on the way to recovery.

Already there has been a welcome improvement since I addressed a message to you twelve months ago; but a very much greater improvement is required before the financial results can be regarded with satisfaction.

The further progress made during the past year is a clear indication that every effort continues to be made by all grades of staff to improve the services given to the public, and I tender my thanks to all concerned for their loyal support.

There has been a marked advance in the company's operating efficiency; compared with the previous year, a greater mileage per engine has been obtained, more miles have been run per engine-hour, the consumption of coal per engine-mile has been reduced, and there has been a considerable improvement in the general timekeeping of trains.

Notable features of the year have been the general acceleration of both passenger and goods train, the running from London to South Wales of the fastest daily newspaper train in the world, the introduction of camp-

ing coaches and quick-lunch restaurant cars.

An important innovation was the use of streamlined diesel railcars to develop long distance and local services in cases where the traffic was insufficient to justify the running of trains.

The improvement in trade has brought, in its train, new enterprises, and during the past year fifty-five factories have been established on the company's system.

Unfortunately the improvement in general trade has not extended to export coal, upon which the financial success of the South Wales docks so largely depends; and the working results of this section of the company's undertaking are still most disappointing.

It is not possible to forecast the trend of trade in 1935, and while it is hoped that the steps that are already being undertaken to ameliorate the plight of depressed areas will meet with success, the most urgent need is for H.M. Government to find some means by which the coal export trade of South Wales can be restored to a prosperous level.

**Sir JOSIAH STAMP,**  
Chairman and President of the  
Executive, London Midland &  
Scottish Railway

A year ago in sending New Year's greetings to all L.M.S. men and women at home and overseas, I took the opportunity of thanking you for your great efforts during the period of depression. We then greeted with a sigh of great relief the definite indications of improvement in trade.

It is difficult if not dangerous to prophesy, but we have the satisfaction of knowing that the improvement indicated at the beginning of last year has been, to a considerable extent, maintained; we have had a gratifying revival in passenger traffic and, under the stimulus of reduced fares, a return of travellers to our stations.

I am being continually told on all hands that the spirit of the railways is better than it has ever been before—men are keener and more alert to give the best service—and it is rare for me now to hear of instances of the "take it or leave it" kind.

If, as I believe to be the case, we are moving as a nation to more prosperous times, every man and woman of us throughout this great undertaking must be ready to contribute our full share to such prosperity. We have many keen competitors, and the slightest weakness on our part will give them their opportunity.

In expressing my appreciation of your efforts during the past year, I feel sure that whatever may be the problems facing us in 1935, I can rely

upon it that you will meet them with that determination with which I know past difficulties have been overcome.

**LORD ASHFIELD,**  
Chairman, London Passenger  
Transport Board

To each and every member of the staff I send my sincere thanks and appreciation for your loyal help and co-operation and also my very best wishes to you and to the members of your family for a merry Christmas and a happy and prosperous New Year.

**Mr. GEORGE MILLS,**  
Divisional General Manager  
(Scottish Area) London & North  
Eastern Railway\*

The festival of New Year is probably more associated with Scotland than with England. Apart from its more robust aspects, however, it is a very definite starting point in every sphere of activity. Anniversaries seem to fulfil a genuine and universal need. Birthdays, new years, centenaries, all provide occasion for reflection and review, but in a special degree a new year affords opportunity for taking up our tasks with keener anticipation. If a previous year has not come up to expectations we have the feeling that the coming year will adjust the balance; if last year has been good, next year will be better. Does not everyone like a new beginning—the start of a career, the commencement of a journey, the initiation of a fresh enterprise, the dawn of another day? A future full of possibilities appeals to us all. Therefore to all those linked together in community of interest in and loyalty to the London & North Eastern Railway Company, to the staff whose work makes the far-flung activities of our company a vital factor in the life of the nation, and to their families who share in the pride of railway service, I extend cordially the time-honoured and sincere wish that 1935 may be, in every sense of the words, "A good New Year."

Railways have undergone a severe testing time during the last few years, but I think the lean years of depression have had a wonderful effect in making us realise the essential unity of all that is involved in the words "London & North Eastern Railway." Adversity tries us, but knits the bonds of a common enterprise more closely. Twelve years have passed since amalgamation brought us together. At first we may have had old constituent company leanings, but these have slowly and surely developed into a London & North Eastern loyalty which

\* Following the custom of the L.N.E.R., New Year messages are given in turn year by year in the *London and North Eastern Railway Magazine* by the various chief officers. This is the first from Mr. Mills, who was appointed Divisional General Manager (Scottish Area) in June last.

bad times have only served to strengthen.

I always think our non-stop Flying Scotsman demonstrates the close relationship between the various areas of our railway system. This message of goodwill is written in Edinburgh, but in summer our non-stop makes King's Cross the next station to Waverley.

Mr. Whitelaw's work as Chairman has been invaluable in bringing the different sections of our staff together and developing their common interests. His intense and practical interest in the welfare of the staff does not allow him to spend much time at his Scottish home. The frontispiece of our magazine gives a glimpse of Hatton House. Our Chairman must often be reluctant to leave its pleasant grounds and travel south to attend a social gathering or to address one of our debating societies, but we do appreciate his resolve to share in our activities.

The upward curve of trade and traffic which commenced in the summer of 1933 has continued to give us reasonable grounds for looking forward hopefully. We have to travel some distance before we reach the volume of traffic of 1929, and this can best be achieved by concerted and cheerful effort. Despite the trying times through which we have passed—there has not been a normal year since amalgamation—the London & North Eastern Railway can reasonably take credit for utilising the period of bad trade as a time of preparation for the heavier traffic for which we wait, so that when business improves we will be all the better equipped to do our share.

Last year was notable for some outstanding events. It saw the opening of the new fish dock at Grimsby. The first sod was cut in 1930 and the dock was opened in October last, so that its construction during the period of bad trade was a noteworthy sign that we were marching forward with courage. The locomotive maintains its perennial interest, and the new class, of which the *Cock o' the North* was the first, develops an exceptionally high tractive power. The remarkable run of Pacific engine 4472 (*Flying Scotsman*) between London and Leeds on November 30 has created a British record and shown what the steam locomotive can do when it is allowed to go "all out."

The main stream of national transport must always flow along railway channels, though modern conditions intensify competition and present problems daily which must be solved. These difficulties should be treated merely as incentives to greater effort. Let us welcome the new year with its unbounded scope for the display of energy and initiative, remembering that "nothing great was ever achieved without enthusiasm."

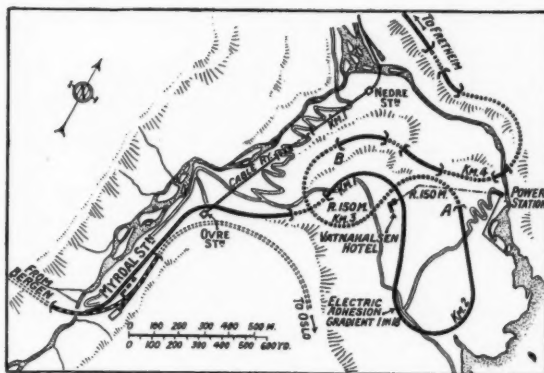
**ARGENTINE RAILWAY WAGES.**—The managements of the Buenos Ayres Great Southern and the Central Argentine Railways have decided to suspend wage cuts from December 1.

## Piercing of the Vatnahal Tunnel

Ten years of work were brought to a successful conclusion when the tunnel under the Vatnahal plateau on the Flams Railway (Flamsbane) was pierced on May 15 last. This tunnel, shown between A and B on the map, is 908 metres in length and is nearly the longest on the line. It has been driven by means of the Ingersoll machine boring system, using electric power from the old power station of the Bergen Railway at Tjosfoss, which has been extended. This method of boring has worked very satisfactorily. The route, which is formed of 2 reverse curves of 150 metres radius and a short

piece of straight line between, is on a gradient of 5.1 per cent. with a difference in level between the upper end A and lower entrance B of 46.3 metres. The tunnel lies at a depth of about 8 metres beneath the Vatnahal plateau. The major portion of the tunnel, about 680 m., was driven from the lower level, the remainder from the upper, through a line crossing another at right angles between the reverse curves. The control measurements after the piercing revealed an inaccuracy sideways of 0.045 m. and in length of 0.010 m. The two headings agreed completely with each other, which is a remarkable result

under such circumstances. The work was begun in June, 1924, and has gone on continually since at a regular rate with a shift of only 6 to 7 men. There have been no mishaps. About 31,000 kg. explosives have been used and the working hours have totalled about 98,000. The finishing off of the tunnel is now proceeding. The boring has been superintended by Assistant Engineer Einar Sutter.



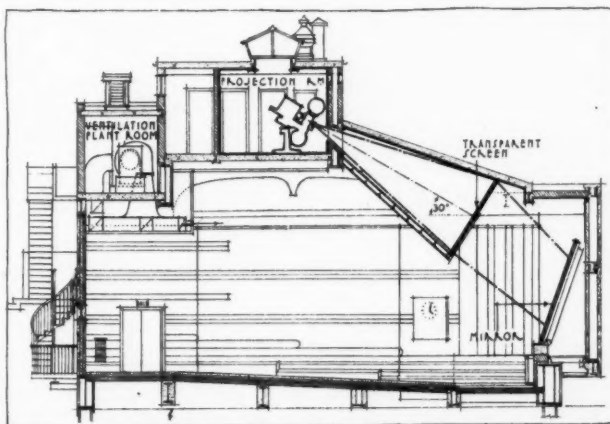
## Novel Projection at Waterloo News Theatre, Southern Railway

In our issue of September 28 we described and illustrated the news theatre that has recently been provided for the entertainment of travellers at Waterloo station, Southern Railway. Since then we have had the opportunity of visiting the cinema and experiencing for ourselves the novel method of projection which is being used there for the first time in this country. As will be seen from the drawing reproduced herewith, the film is projected

first on to an opaque screen which reflects the image on to a slanting mirror, situated almost immediately below, which takes the place of the orthodox screen. The advantage of such an arrangement is that there are no shafts of light from the projector to the screen, interruptions of which caused by an audience fre-

quently coming and going, naturally tend to spoil the sequence of the film.

It may be said that the reflective qualities of the mirror-screen appear to cause a slight fuzziness. If due care, however, is taken with the design and decoration of the cinema interior even this drawback to an otherwise most advanced form of cinematograph projection should be successfully overcome.





## L.M.S.R. Programme for 1935

The L.M.S.R. announces that the draft works and rolling stock programme for 1935, is now complete and an expenditure of £9,300,000 on major replacements and improvements is involved. This programme includes the provision of 287 locomotives and 175 locomotive boilers, 607 passenger coaches, 20 sleeping cars, 10,050 freight wagons, and two steamships. In addition, the company will renew 600 miles of permanent way, and over £1,500,000 will be spent on other miscellaneous railway works. Reference to orders which have already been placed with outside firms is made in our Contracts and Tenders section this week.

Of the 287 new locomotives to be introduced, it is interesting to note that ten as already announced will be similar in type to the four-cylinder 4-6-2 express passenger engine, *Princess Royal*, which was placed in service between London and Glasgow in 1933. The scheme also provides for an additional 30 three-cylinder 4-6-0 express passenger locomotives, together with 155 4-6-0 mixed traffic engines, some of both types of which are in course of delivery and 20 diesel-electric shunting locomotives (ordered during the past few days). All the new locomotives will be of increased unit power compared with the units to be displaced. The L.M.S.R. is thus vigorously pursuing its plans for the improvement of passenger and freight services. Some indication of the progress of administration of the group company since it came into being twelve years ago may be gleaned from the fact that the number of different types of locomotives has been reduced from 393 to 188, while the number superheated has been increased by 2,120, or nearly trebled.

One and a quarter million pounds is to be spent on providing over 600 passenger coaches of the latest design. Approximately one-third of the new freight wagons will be fitted with automatic brakes, in order that they may be conveyed by the express goods services and thus ensure rapid deliveries of merchandise. Similarly, so far as road transport is concerned, the programme provides for the acquisition of a large number of motor vehicles.

The expenditure on permanent way renewal will amount to £2,000,000, and will include the renewal of 600 miles of track. This, together with smaller works, requires no less than 90,000 tons of British manufactured steel rails and 1,300,000 new sleepers, together with a huge amount of other material for use in connection with re-sleeping operations, e.g., 1,210 tons of fishplates, 57,000 tons of chairs, 10,000,000 ferrules, and 6,000,000 wooden keys.

During the year, the L.M.S.R. fleet of steamships will be augmented by

two new vessels, namely, the *Marchioness of Lorne* and the *Duke of York*. The former will be placed in service on the Clyde and the latter on the company's Heysham-Belfast route. Provision has also been made for the modernisation of docks; for instance,

at Fleetwood Harbour an expenditure of over £85,000 will be incurred on an improvement scheme. Electric power stations, hotels and workshops are likewise embraced by the programme of development; and the company's plan of bridge reconstruction will include the rebuilding as already announced of the Burleigh viaduct on the Midland line between Derby and Ambergate.

## G.W.R. Programme for 1935

The G.W.R. announces the following annual programme of renewals and additions of rolling stock and permanent way work for 1935. The rolling stock will be constructed at the company's Swindon works, and the outstanding features of this part of the programme will be the building of two new 10-unit kitchen-car centre corridor trains for big parties, firms' outings, guaranteed excursions and tourist traffic, and 10 more "Castle" class engines similar to those used on the Cheltenham Flyer, the world's fastest steam train, 56 of which are already in service. Details of the programme are:—

Locomotives	
10 "Castle" class engines	
15 "Hall" class engines	
10 Standard goods engines	
60 Tank engines	
95	
Passenger Stock	
16 First and third class non-corridor coaches	
48 Third class non-corridor coaches	
26 Third class non-corridor coaches with brake van	
20 First and third class corridor coaches with brake van	
55 Third class corridor coaches	
13 Third class corridor coaches with brake van	
3 Third class sleeping coaches	
8 Centre vestibule third class coaches	
4 Centre vestibule third class coaches with brake van	
4 Twin dining car units	
2 Kitchen cars	
2 Third class saloons	
10 Passenger brake vans	
211	
Freight Wagons	
1,886 Open 12-ton non-vacuum-fitted wagons	
100 Open 12-ton vacuum-fitted wagons	
100 Special wagons vacuum-fitted for container traffic	
200 Covered 12-ton vacuum-fitted wagons	
100 Convertible 12-ton vacuum-fitted wagons which can be used for motor traffic or as covered goods vans	
30 20-ton goods guards' brake vans	
24 30-ton rail and timber wagons	
46 Wagons for conveying motorcar bodies	
2,486	

390 miles of track renewals will be carried out, the principal permanent way materials required including the following items: 32,500 tons of steel rails; 17,000 tons of chairs; 4,300 tons of bolts; 950 tons of fish-plates; 5,000 loads of crossing timbers; 600,000 sleepers; 185,000 cubic yards of ballast; and 2,500,000 wooden keys. Some 130 bridges of various sizes and dimensions will be rebuilt during the year.

Two large reconstruction schemes will be completed during the year, namely Bristol (Temple Meads) and Swansea (High Street) stations. In addition, the station at Leamington Spa is to be entirely remodelled, and there will be extensive siding improvements at Old Oak Common as well as the construction of a number of new halts in various parts of the system.

Further reference to the G.W.R. programme for 1935 is made in an editorial note on page 2 and in our Contracts and Tenders section on page 31.

**DIESEL-ELECTRIC GENERATING SETS FOR LIMBE WORKSHOPS, NYASALAND RAILWAYS.**—The workshops at Limbe of the Nyasaland Railways Limited are being equipped with diesel-electric power. The generating plant for this purpose, as recorded in the Contracts and Tenders Section in our issue for May 11, 1934, is being supplied by the Metropolitan-Vickers Electrical Co. Ltd. and includes two alternating current 50-kW generating sets of 415 volts, 3-phase, 50-cycle arranged to run in parallel. The Petter 108-b.h.p. Atomic diesel engines for this contract, also mentioned in the above-quoted issue, are of the three-cylinder vertical two-stroke type, and start directly from cold by use of compressed air. Parallel operation of the two sets is made possible by the powerful yet extremely sensitive governors which control the engine speeds very closely on light and heavy loads. Tachometers are fitted to both engines so that their speeds may be synchronised by the control wheels on the governors. When synchronised, the engines will operate on any load without further adjustment. The inherently low cyclic variation of the two-stroke engine provides flickerless light without resort to unusually heavy flywheels.

**TRANS-SIBERIAN FARES.**—The railway authorities of the U.S.S.R. have reduced the fares to and from Europe via the Trans-Siberian Railway by 35 per cent. if the traveller goes by way of the Chinese Eastern Railway and by 48 per cent. for journeys on the all-Russian route to Vladivostok. This is the fourth and most substantial reduction within the last two years.

## NOTES AND NEWS

**Sevenoaks Electrification.**—A full electric service on the Southern Railway's electrified extensions from St. Mary Cray and Orpington to Sevenoaks is to be inaugurated on January 6, from which date Sevenoaks (Tubs Hill) station will have a service of 63 down and 48 up trains daily in place of the present totals of 31 and 27 respectively. Similar or greater increases have been made in the services to other stations.

**New L.M.S.R. Steamer for Irish Cargo Service.**—The *Slieve League*, a twin-screw 17-knot steamer for the L.M.S.R. cargo service between Holyhead and Dublin (North Wall), was launched from the yard of William Denny & Brothers Ltd., Dumbarton, on Friday, December 21, by Mrs. Ashton Davies, wife of the L.M.S. Chief Commercial Manager. The new vessel, which is to be equipped for carrying horses, cattle, sheep and motor-cars, is a repeat order of two other vessels, the *Slieve Bloom* and the *Slieve More*, launched for the L.M.S.R. in 1930 and 1932.

**Hot-Water Bottles for Sleeping-Car Travellers.**—The L.M.S.R. and L.N.E.R. announce that, as from January 1, hot-water bottles are available to passengers travelling by first class sleeping cars on the principal night expresses. Hot-water bottles will be provided gratis on request being made to the sleeping-car attendant, and the services on which this facility will be available include those between London (King's Cross, Euston and St. Pancras) and Liverpool, Manchester, Holyhead, Newcastle, Preston, Edinburgh, Glasgow, Dundee, Inverness, Aberdeen, Oban, and Turnberry.

**Great Southern Road Operators' Wages.**—The Executive Committee of the National Union of Railwaymen and the Railway Clerks' Association has now ratified the tentative agreement made with the Great Southern Railways Company of Ireland. This agreement governs the rates and conditions of service of traffic inspectors and supervisors in the omnibus, road freight and cartage departments of the Great Southern. Substantial improvements in the present rates of pay and the substitution of a six-day for a seven-day week are included in the provisions of the agreement, which is ante-dated to the first full pay period in August last.

**London Transport Tram and Busmen's Wages.**—London tramway workers uniform staff are to receive an increase in wages of three shillings a week. Two shillings is to be paid from the first full pay week in January, and the remaining shilling from the first full pay week in April. There are also concessions regarding working hours and conditions. London bus conductors will receive two shillings a week increase, and drivers one shilling a week, from

the first full pay week in April. A conference of the tramway section of the Transport and General Workers Union, after a long discussion, at Transport House, Westminster, on January 2, accepted the terms negotiated by the union officials with the Transport Board.

**Proposed South London Tube Extension.**—Reference to the deferred scheme of the London Passenger Transport Board to construct a loop line from the existing south-bound track of the Bakerloo Line from the Elephant and Castle to Camberwell Green, was made at a meeting of the Southwark Borough Council on January 2. It was stated that the whole of the works will be constructed underground, but for excavation purposes it was proposed temporarily to close a portion of Ontario Street, a thoroughfare near the Elephant and Castle.

**The Week's Road Accidents.**—The Ministry of Transport return for the week ended December 29 of persons killed or injured in road accidents is as follows (the figures in brackets received too late for inclusion in last week's issue, are for the week ended December 22) :—

	Killed	Deaths resulting from previous accidents	Injured
England	114 (113)	42 (29)	3,365 (3,791)
Wales ...	10 (6)	3 (1)	139 (143)
Scotland	13 (11)	5 (-)	356 (371)
	137 (130)	50 (30)	3,860 (4,305)

The total fatalities for the week, were therefore, 187, as compared with 160 for the previous week and 165 for the week ended December 15.

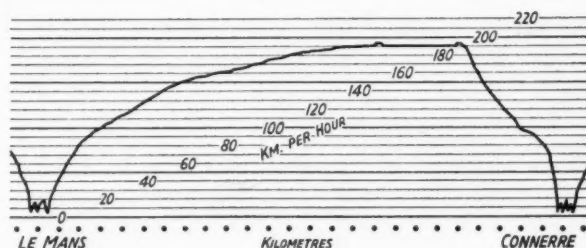
#### Stephenson Locomotive Society.

—The President of the Stephenson Locomotive Society (Mr. J. N. Maskelyne) presided over the annual dinner at the Midland Grand Hotel St. Pancras on December 8. Guests who participated in a very enjoyable evening included representatives from railway companies and a visitor from Queensland. During the proceedings the society welcomed Driver Sparshatt of the L.N.E.R., who had so recently achieved fame by his record-breaking run with *Flying Scotsman*, from King's Cross to Leeds and back. Speeches were made by the Chairman, Mr. L. E. Brailsford (Vice-President), Messrs. Shannon, Adkinson, and Sparshatt (visitors), Mr. J. C. Crebbin and Mr. R. A. H. Weight (Vice-Chairman). At the

twenty-sixth annual general meeting, held at headquarters earlier in the day, sound progress was reported by London and branch secretaries. The Hon. General Secretary of the society, Mr. J. H. Seaford, Fulmer Road, Gerrard's Cross, Bucks, will be pleased to supply information regarding membership and the society's lecture scheme for schools and young men's organisations.

**Steel Sleepers.**—The correspondence on this subject, upon which we commented editorially in our issue of November 23 last, has been continued in *The Times*. Mr. C. Peter Sandberg, in the issue of December 24, drew attention to the fact that the price of steel sleepers is now comparable with that of wooden sleepers and suggested that, with the satisfactory experience which the British railways have now acquired with the several types tried during the past ten or twelve years, they might be "warranted in extending their use, both to their own advantage and to the benefit of the steel industry of the country." Mr. Sandberg concluded by expressing his opinion that the question was one of national importance.

**Railcars for High Speed.**—In Mr. Carpmal's recent address on "Speeds of Travel of the Future" to the Institute of Transport, reported in our issue of November 16, 1934, it was suggested that the running costs of streamlined internal combustion trains were excessive. Mr. R. Helbronner, representative in England of the French State Railways, in a letter to *The Times* of December 27, stated that the running cost a kilometre (capital charges excluded) of high speed railcars on that system did not exceed 2.70 francs a kilometre. Such cars have been in regular service for the past 18 months on high-speed main-line schedules and, on October 24 last during tests between Le Mans and Connerre, a maximum speed of 192 km.p.h. (119.3 m.p.h.) was attained. We reproduce herewith a graph of the speed on the test which provided this maximum. Several trips actually were run between the two places named, one producing a maximum of 150 km.p.h. (93.2 m.p.h.), another 182 km.p.h. (113 m.p.h.) and a third the above-mentioned maximum. The running, as recorded by Hallade apparatus carried in the car, was shown to be steady even at the highest speeds. Mr. Helbronner mentioned in his letter that the running cost of 2.70 francs a kilometre was



High speed railcar run on the French State Railways

likely to remain far below that of an aeroplane. The cars in question are of the well-known Bugatti type illustrated and described in THE RAILWAY GAZETTE of May 26, 1933.

**German Railway Accident.**—As a result of a head-on collision between two trains near Stuttgart on December 22, nine persons lost their lives.

**Noiseless Trolleys for Paddington.**—In order to reduce noise and also avoid damage to the platforms, 266 four-wheel trolleys used in conjunction with power trucks at Paddington station, G.W.R., are to be fitted with rubber tyres.

**Accident in Tasmania.**—Having been undermined by recent heavy rain, a culvert near Wynard in north-eastern Tasmania collapsed under the weight of a train on December 29. The engine got across safely, but the culvert then gave way and part of the first coach was submerged. One passenger died in hospital as a result, and nine others were injured.

**£85,000 Scheme for Fleetwood, L.M.S.R.**—Important schemes, at a cost of over £85,000, are to be put in hand immediately for the further improvement and modernisation of the west coast fishing port of Fleetwood. The two main features are the provision of electrical belt conveyors for coaling trawlers and the conversion of the whole of the existing hydraulic plant to electric power. In addition, siding accommodation will be constructed to accommodate an extra 621 wagons.

**Anglo-Argentine Trade Relations.**—With the object of fostering the good relations which have always existed between Argentina and manufacturers served by the port of Liverpool, we are informed by Señor F. Dato-Tessitore, Consul in Liverpool for the Argentine Republic, that he has recently paid a visit to the following firms and that it is his intention to inspect further factories in Lancashire during the next few months:—

Goodlass Wall & Co., Liverpool; British Insulated Cables Limited, Prescott and Helsby; Automatic Electric Co. Ltd., Liverpool; Anglo-Argentine Iron Company, Shotton, Chester; Gandy Belt Manufacturing Co. Ltd., Seacombe, Cheshire; Pilkington Bros. Ltd., St. Helens; and Dunlop Rubber Co. Ltd. (General rubber goods division), Manchester.

**Fares Concessions in Lancashire and Yorkshire.**—As an experiment, the L.M.S.R. and L.N.E.R. are making an important fares concession to travellers in and between Lancashire and Yorkshire. As from January 1 monthly return (penny-a-mile) tickets issued by either company between any two stations in either Lancashire or Yorkshire or from a Lancashire to a Yorkshire station, or vice versa, are not subject to any minimum fare such as applies to monthly return tickets generally. Penny-a-mile period travel is thus available between a large number of places in Lancashire and Yorkshire where it would normally be excluded

by the minimum fares for monthly return tickets of 3s. 9d. first class and 2s. 6d. third class.

**Locomotive Boiler Explosion in U.S.A.**—Fifteen persons were killed and many injured when the boiler of a locomotive exploded at Montgomery (West Virginia) on December 27. The engine was hauling a trainload of miners to their work at the time.

**More L.N.E.R. Accommodation for Campers.**—By reason of the success of the L.N.E.R. experiment with camping coaches last summer, arrangements are being made for the scheme to be extended during the present year to Akeld station on the Alnwick and Coldstream branch, and to Clifton Moor station, near Penrith, in Cumberland. Both stations are situated in beautiful surroundings.

**L.M.S.R. Valuation for Rating.**—The Railway Assessment Authority has completed its provisional valuation of the London Midland and Scottish Railway (including docks and canals) in England and Wales, and has issued the draft roll containing its proposals. According to the draft roll, the total average net receipts of the company from its undertaking as a whole in England and Wales for the years 1928-29 amount to £14,237,091. The total net annual value of the undertaking as a whole in England and Wales is stated to be £5,000,000, and the total of the comparable existing rating assessments upon the undertaking as a whole in England and Wales is understood to be about £3,657,000. Of the total of £5,000,000, there has been allocated to the railway proper £4,927,069, to the dock undertaking as a whole £57,925, and to the canals as a whole £15,006.

**The Midland Grand Hotel, London.**—In announcing officially the decision of the board of the L.M.S.R. to close the Midland Grand Hotel at St. Pancras station, London (which was forecast in a news paragraph on page 1040 of our issue of December 21), it was stated that the closing would be about the middle of April next. In an interview, Mr. Arthur Towle, Controller of the L.M.S.R. hotels, stated that extensive alterations were in hand at the Euston Hotel, which was being brought up to thoroughly modern standards, to provide for former patrons of the Midland Grand. It was hoped to institute a transport service for passengers between St. Pancras and Euston, but in any case hotel porters would meet all Midland section trains to convey luggage. The whole of the bedroom accommodation at the Euston Hotel was to be rebuilt on modern lines and new banqueting and meeting halls would be provided in the west wing. A new restaurant would be built at St. Pancras station, with access from the concourse and the street, and would furnish the last word in restaurant comfort. The L.M.S.R. would retain control of the Midland Grand Hotel for its own use.

## British and Irish Railways Stocks and Shares

Stocks	Highest 1934	Lowest 1934	Prices	
			Jan. 2, 1935	Rise/Fall
<b>G.W.R.</b>				
Cons. Ord. ...	661½	481½	51	—
5% Con. Prefce. ...	118	109	118½	+2½
5% Red. Pref. (1950) ...	115	107	114½	+2
4% Deb. ...	117	105	115½*	+½
4½% Deb. ...	119	109	116½*	—
4½% Deb. ...	129½	115¼	127½*	—
5% Deb. ...	135	126¼	133½*	—
2½% Deb. ...	75	64	76½*	+3
5% Rt. Charge ...	134½	123¼	133½	+1
5% Cons. Guar. ...	132¾	121¾	132½	+2
<b>L.M.S.R.</b>				
Ord. ...	301½	19½	21	—
4% Prefce. (1923) ...	64¼	41	49½	+½
4% Prefce. ...	87	69½	56½	+1
5% Red. Prf. (1955) ...	107	92½	105	+1
4% Deb. ...	114½	100½	109	+1
5% Red. Deb. (1952) ...	118½	111¼	117½	—
4% Guar. ...	106½	96¾	105	+½
<b>L.N.E.R.</b>				
5% Pref. Ord. ...	24¾	13½	14½	—
Def. Ord. ...	11½	6¾	7¼	—
4% First Prefce. ...	76	59½	73½	+2½
4% Second Prefce. ...	47	25½	30	+½
5% Red. Pref. (1955) ...	94½	80	91½	+1
4% First Guar. ...	104	92	102½	+½
4% Second Guar. ...	97½	86½	96½	+½
3% Deb. ...	90	74½	85	+1
4% Deb. ...	114	99¼	108½	+1
5% Red. Deb. (1947) ...	117	108	117	+1
4½% Sinking Fund Red. Deb. ...	111¼	105¼	109½	—
<b>SOUTHERN</b>				
Pref. Ord. ...	90	63½	79	+1
Def. Ord. ...	32½	19	22	+½
5% Prefce. ...	118½	107½	118½	+½
5% Red. Pref. (1964) ...	115¾	107½	114½	—
5% Guar. Prefce. ...	132	120¾	131½	—
5% Red. Guar. Pref. (1957) ...	119½	113	119	+1
4% Deb. ...	116½	103¼	115	+½
5% Deb. ...	134	124½	132½	—
4% Red. Deb. ...	113½	105½	112	—
<b>1962-67</b>				
<b>BELFAST &amp; C.D.</b>				
Ord. ...	6	5	5¼	—
<b>FORTH BRIDGE</b>				
4% Deb. ...	110	100	109½*	—
4% Guar. ...	110	100	108½*	—
<b>G. NORTHERN (IRELAND)</b>				
Ord. ...	9¾	4½	6	—
<b>G. SOUTHERN (IRELAND)</b>				
Ord. ...	25	12½	15	—
Prefce. ...	21½	13½	16	—
Guar. ...	48	39	47	—
Deb. ...	67	59	66½	—
<b>L.P.T.B.</b>				
4½% "A" ...	126	115	124½	+1
5% "A" ...	135½	124½	135½	+1
4½% "T.F.A." ...	113½	107½	112	+½
5% "B" ...	131¾	118	126½	+1
5% "C" ...	97	73	100	+4
<b>MERSEY</b>				
Ord. ...	15¼	7	10	—
4% Perp. Deb. ...	93½	82½	95	+1
3% Perp. Deb. ...	66½	61½	68½	—
3% Perp. Prefce. ...	54	44½	48½	—

\* ex dividend



## British and Irish Traffic Returns

GREAT BRITAIN	Totals for 52nd Week				Totals to Date			
	1934	1933	Inc. or Dec.		1934	1933	Inc. or Dec.	
	£	£	£	£	£	£	£	
L.M.S.R. (6,941½ mls.)								
Passenger-train traffic...	396,000	367,000	+ 29,000	24,653,000	24,256,000	+ 397,000		
Merchandise, &c. ...	244,000	284,000	- 40,000	23,096,000	21,711,000	+ 1,385,000		
Coal and coke ...	171,000	218,000	- 47,000	11,928,000	11,599,000	+ 329,000		
Goods-train traffic ...	415,000	502,000	- 87,000	35,024,000	33,340,000	+ 1,684,000		
Total receipts ...	811,000	869,000	- 58,000	59,677,000	57,596,000	+ 2,081,000		
L.N.E.R. (6,339 mls.)								
Passenger-train traffic...	285,000	273,000	+ 12,000	16,001,000	15,746,000	+ 255,000		
Merchandise, &c. ...	197,000	230,000	- 33,000	16,407,000	15,108,000	+ 1,299,000		
Coal and coke ...	172,000	220,000	- 48,000	11,892,000	11,139,000	+ 753,000		
Goods-train traffic ...	369,000	450,000	- 81,000	28,299,000	26,547,000	+ 1,752,000		
Total receipts ...	654,000	723,000	- 69,000	44,300,000	42,293,000	+ 2,007,000		
G.W.R. (3,750½ mls.)								
Passenger-train traffic...	180,000	160,000	+ 20,000	10,500,000	10,472,000	+ 28,000		
Merchandise, &c. ...	75,000	95,000	- 20,000	9,268,000	8,773,000	+ 495,000		
Coal and coke ...	64,000	77,000	- 13,000	5,139,000	5,113,000	+ 26,000		
Goods-train traffic ...	139,000	172,000	- 33,000	14,407,000	13,888,000	+ 519,000		
Total receipts ...	319,000	332,000	- 13,000	24,907,000	24,360,000	+ 547,000		
S.R. (2,172 mls.)								
Passenger-train traffic...	265,000	229,000	+ 36,000	15,107,000	14,853,000	+ 254,000		
Merchandise, &c. ...	36,500	46,500	- 10,000	3,287,500	3,164,000	+ 123,500		
Coal and coke ...	24,500	40,500	- 16,000	1,611,500	1,589,000	+ 22,500		
Goods-train traffic ...	61,000	87,000	- 26,000	4,899,000	4,753,000	+ 146,000		
Total receipts ...	326,000	316,000	+ 10,000	20,006,000	19,606,000	+ 400,000		
Liverpool Overhead (6½ mls.)	856	873	- 17	58,813	58,714	+ 99		
Mersey (4½ mls.)	3,775	3,728	+ 47	212,107	209,260	+ 2,847		
*London Passenger Transport Board ...	496,900	464,200	+ 32,700	13,859,200	13,578,400	+ 280,800		
IRELAND								
Belfast & C.D. (80 mls.)	2,348	2,132	+ 216	127,749	128,639	- 890		
" " " " " "	300	275	+ 25	26,919	27,018	- 99		
" " " " " "	2,648	2,407	+ 241	154,668	155,657	- 989		
Great Northern (562 mls.)	13,250	11,385	+ 1,865	515,800	409,035	+ 106,765		
" " " " " "	4,200	4,344	- 144	446,050	371,994	+ 74,056		
" " " " " "	17,450	15,729	+ 1,721	961,850	781,029	+ 180,821		
Great Southern (2,158 mls.)	28,713	25,213	+ 3,500	1,247,289	1,225,168	+ 22,121		
" " " " " "	25,148	11,592	+ 13,556	1,753,055	1,625,422	+ 127,633		
" " " " " "	53,861	36,805	+ 17,056	3,000,344	2,850,590	+ 149,754		

\* 26th week, the receipts for which include those undertakings not absorbed by the L.P.T.B. in the corresponding period last year; last year's figures are, however, adjusted for comparative purposes.

## British and Irish Traffic Returns

GREAT BRITAIN	Totals for 51st Week				Totals to Date			
	1934	1933	Inc. or Dec.	1934	1933	Inc. or Dec.		
	£	£	£	£	£	£		
L.M.S.R. (6,941½ mls.)								
Passenger-train traffic...	631,000	663,000	32,000	24,257,000	23,889,000	368,000		
Merchandise, &c. ...	449,000	406,000	43,000	22,852,000	21,457,000	1,395,000		
Coal and coke ...	302,000	310,000	8,000	11,757,000	11,381,000	376,000		
Goods-train traffic ...	751,000	716,000	35,000	34,609,000	32,838,000	1,771,000		
Total receipts ...	1,382,000	1,379,000	3,000	58,866,000	56,727,000	2,139,000		
L.N.E.R. (6,339 mls.)								
Passenger-train traffic...	392,000	401,000	9,000	15,716,000	15,473,000	243,000		
Merchandise, &c. ...	332,000	307,000	25,000	16,210,000	15,178,000	1,032,000		
Coal and coke ...	273,000	262,000	11,000	11,720,000	10,919,000	801,000		
Goods-train traffic ...	605,000	569,000	36,000	27,930,000	26,097,000	1,833,000		
Total receipts ...	997,000	970,000	27,000	43,646,000	41,570,000	2,076,000		
G.W.R. (3,750½ mls.)								
Passenger-train traffic...	284,000	302,000	18,000	10,320,000	10,312,000	8,000		
Merchandise, &c. ...	177,000	168,000	9,000	9,193,000	8,680,000	513,000		
Coal and coke ...	110,000	125,000	15,000	5,075,000	5,036,000	39,000		
Goods-train traffic ...	287,000	293,000	6,000	14,268,000	13,716,000	552,000		
Total receipts ...	571,000	598,000	27,000	24,588,000	24,028,000	560,000		
S.R. (2,172 mls.)								
Passenger-train traffic...	369,000	388,000	19,000	14,842,000	14,624,000	218,000		
Merchandise, &c. ...	61,000	57,500	3,500	3,251,000	3,137,500	113,500		
Coal and coke ...	36,000	41,500	5,500	1,587,000	1,528,500	58,500		
Goods-train traffic ...	97,000	99,000	2,000	4,838,000	4,666,000	172,000		
Total receipts ...	466,000	487,000	21,000	19,680,000	19,290,000	390,000		
Liverpool Overhead (6½ mls.)	1,146	1,207	61	57,957	57,841	116		
Mersey (4½ mls.)	4,940	5,454	514	208,332	205,532	2,800		
*London Passenger Transport Board	587,500	571,300	16,200	13,362,300	13,114,200	248,100		
IRELAND								
Belfast & C.D. (80 mls.)	2,062	1,933	129	125,401	126,507	1,106		
" " " " " "	584	566	18	26,619	26,743	124		
" " " " " "	2,646	2,499	147	152,020	153,250	1,230		
Great Northern (562 mls.)	11,300	10,850	450	502,550	397,650	104,900		
" " " " " "	10,750	10,350	400	441,850	367,650	74,200		
" " " " " "	22,050	21,200	850	944,400	765,300	179,100		
Great Southern (2,158 mls.)	29,948	29,554	394	1,218,576	1,199,955	18,621		
" " " " " "	43,257	33,541	9,716	1,727,907	1,613,830	114,077		
" " " " " "	73,205	63,095	10,110	2,946,483	2,813,785	132,698		

\* 25th week, the receipts for which include those undertakings not absorbed by the L.P.T.B. in the corresponding period last year; last year's figures are, however, adjusted for comparative purposes.

## BRITISH RAILWAY STATISTICS

"The Railway Gazette" monthly table of freight and passenger traffic figures for September, 1934, as compared with the corresponding period in 1933, compiled from the Ministry of Transport Statement No. 178

Description	Great Britain*	Great Western	London & North Eastern	London Midland & Scottish	Southern
<b>PASSENGER TRAIN TRAFFIC—</b>					
Number of passenger journeys (excluding season-ticket holders)	100,529,566	8,087,666	15,669,710	24,985,838	18,319,434
Increase (+) or decrease (—)	+ 1,770,154	—	+ 170,646	+ 108,723	+ 358,445
Passenger receipts (excluding season-ticket holders)	£4,772,952	£651,399	£990,006	£1,558,479	£1,048,207
Increase (+) or decrease (—)	+ £59,607	—	+ £21,822	+ £6,303	+ £17,028
Season-ticket receipts	£934,377	£68,401	£173,029	£252,279	£290,092
Increase (+) or decrease (—)	+ £9,681	—	+ £1,696	—	+ £9,678
Parcels and miscellaneous traffic receipts (excluding parcels post)	£1,046,505	£192,605	£300,889	£399,655	£133,477
Increase (+) or decrease (—)	— £36,479	— £8,064	— £9,808	— £10,706	— £187
<b>FREIGHT TRAIN TRAFFIC—</b>					
Freight traffic (tons) (excluding free-hauled)	21,431,357	5,269,530	9,823,149	9,618,908	1,288,783
Increase (+) or decrease (—)	+ 1,415,866	+ 322,852	+ 689,025	+ 734,489	+ 39,698
Net ton-miles (excluding free-hauled)	1,205,431,392	231,709,449	406,884,873	479,343,415	54,220,249
Increase (+) or decrease (—)	+ 98,604,876	+ 25,756,470	+ 31,927,330	+ 37,023,582	+ 1,580,217
Average length of haul (miles) (excluding free-hauled)	56.25	43.97	41.42	49.83	42.07
Increase (+) or decrease (—)	+ 0.95	+ 2.34	+ 0.37	+ 0.04	+ 0.07
Freight traffic receipts	£6,756,583	£1,169,000	£2,258,000	£2,723,000	£395,081
Increase (+) or decrease (—)	+ £333,631	+ £45,256	+ £157,000	+ £96,000	+ £21,081
Receipts per ton-mile	1.345d.	1.21d.	1.33d.	1.36d.	1.75d.
Increase (+) or decrease (—)	— 0.048d.	— 0.10d.	— 0.01d.	— 0.06d.	+ 0.04d.
Freight train-loads—					
Average train-load (tons)	125.30	136.59	130.95	121.04	101.00
Increase (+) or decrease (—)	+ 4.24	+ 9.70	+ 2.73	+ 3.22	+ 1.95
Net ton-miles—					
Per train engine-hour	1,007.61	1,088.20	1,049.87	975.14	814.06
Increase (+) or decrease (—)	+ 13.10	+ 52.16	+ 13.33	+ 10.11	+ 25.46
Per shunting-hour	861.01	800.50	932.91	897.37	557.44
Per total engine-hour	464.28	461.22	493.97	467.32	331.02
Net ton-miles per route-mile per working day	2.643	2.707	2.838	3.041	1.144
Increase (+) or decrease (—)	+ 221	+ 300	+ 231	+ 237	+ 54
Wagon miles, Total	354,159,945	64,550,850	122,902,356	146,640,262	17,858,126
Increase (+) or decrease (—)	+ 21,804,193	+ 4,769,443	+ 7,353,278	+ 9,160,703	+ 586,063
Percentage of loaded to total	67.27	68.55	65.00	68.61	67.39
Wagons per train—					
Total	34.62	35.34	35.20	34.45	31.45
Increase (+) or decrease (—)	+ 0.38	+ 1.03	—	+ 0.45	+ 0.16
Loaded	23.29	24.23	22.88	23.64	21.19
Empty	11.33	11.11	12.32	10.81	10.26
Train-miles, Coaching—					
Per train-hour	15.19	14.15	14.39	14.70	17.48
Per engine-hour	12.03	11.24	11.11	11.07	14.15
Train-miles, Freight—					
Per train-hour	9.43	9.63	9.34	9.42	9.88
Per engine-hour	3.71	3.40	3.82	3.86	3.21
Engine miles, Total	47,048,727	7,380,287	12,898,984	17,579,820	6,281,886
Increase (+) or decrease (—)	+ 2,327,822	+ 371,878	+ 648,491	+ 1,095,307	+ 182,909
Mileage run by engines, Total train-miles—					
Coaching	23,858,695	3,239,955	5,452,020	7,927,454	4,568,695
Freight	10,228,810	1,826,462	3,491,874	4,256,007	567,862
Engine-hours in traffic, Total	4,945,295	848,985	1,473,360	1,904,766	518,930
Increase (+) or decrease (—)	+ 252,650	+ 38,396	+ 72,173	+ 120,226	+ 19,872
Shunting miles per 100 train-miles—					
Coaching	7.43	6.77	6.65	8.10	8.08
Freight	72.81	84.94	69.03	67.02	95.42

\* All standard-gauge railways

Passenger Traffic Statistics: Number of Journeys, Receipts, and receipts per journey (excluding Season-Ticket Holders)—September, 1934

Subject	Great Britain	Great Western	London & North Eastern	London Midland & Scottish	Southern	Cheshire Lines Committee	Liverpool Overhead	London Passenger Transport Board†	Mersey
<b>Full fares—</b>									
Passenger journeys	28,571,741	798,414	1,255,013	1,710,564	2,876,923	24,217	137,216	20,889,519	84,986
Gross receipts	£1,022,049	£108,018	£160,752	£184,340	£248,919	£3,756	£1,457	£295,935	£1,550
Receipts per passenger journey	8.59d.	32.47d.	30.74d.	25.86d.	20.77d.	37.22d.	2.55d.	3.40d.	4.38d.
<b>Reduced fares—</b>									
Excursion and week-end—									
Passenger journeys	43,742,933	4,982,429	10,013,061	15,768,765	9,503,489	430,540	153,587	1,225,886	565,946
Gross receipts	£3,090,338	£468,478	£696,106	£1,175,808	£638,627	£30,362	£1,499	£29,100	£8,721
Receipts per passenger journey	16.96d.	22.57d.	16.68d.	17.90d.	16.13d.	16.92d.	2.34d.	5.70d.	3.70d.
Workmen—									
Passenger journeys	23,673,153	1,752,454	3,188,689	6,232,483	5,022,864	220,358	156,832	6,080,886	178,418
Gross receipts	£344,033	£25,763	£51,539	£100,002	£83,155	£3,854	£1,262	£66,810	£1,630
Receipts per passenger journey	3.49d.	3.53d.	3.88d.	3.85d.	3.97d.	4.20d.	1.93d.	2.64d.	2.19d.
Other descriptions—									
Passenger journeys	4,515,864	548,521	1,206,048	1,262,674	914,544	64,145	676	410,233	13,639
Gross receipts	£288,312	£42,003	£75,343	£85,473	£75,836	£3,291	£5	£3,650	£174
Receipts per passenger journey	15.32d.	18.38d.	14.99d.	16.25d.	19.90d.	12.31d.	1.78d.	2.14d.	3.06d.
Total—									
Passenger journeys	100,529,566	8,087,666	15,669,710	24,985,838	18,319,334	739,422	448,311	28,606,524	842,989
Gross receipts	£4,772,952	£651,399	£990,006	£1,558,479	£2,489,207	£41,430	£4,223	£395,495	£12,075
Receipts per passenger journey	11.39d.	19.33d.	15.16d.	14.97d.	13.73d.	13.45d.	2.26d.	3.32d.	3.44d.

† Includes passengers originating on the railway undertakings, and on the Whitechapel and Bow Joint Railway

## CONTRACTS AND TENDERS

The Sentinel Waggon Works Limited has received an order from Taylor Bros. Limited, Sandiacre, for one 4 ft. 8½ in.-gauge Sentinel patent 0-4-0 type steam shunting tank locomotive of 100-h.p. and approximately 18 tons weight in working order.

### Home Railway Orders for Diesel Locomotives

The English Electric Co. Ltd. has received an order from the L.M.S.R. for ten 350-b.h.p. diesel-electric shunting locomotives similar in design to the unit which has been tried out in various yards of the railway company during the past seven months. The engine and transmission will be built by the English Electric Co. Ltd. and the mechanical portion by R. & W. Hawthorn, Leslie & Co. Ltd. Sir W. G. Armstrong, Whitworth & Co. (Engineers) Ltd. has also received an order for ten diesel-electric locomotives, as announced in last week's issue of THE RAILWAY GAZETTE. These units are to have an engine output of 300/330-b.h.p. and a locomotive weight of 50 tons. It is expected that all of the 20 locomotives will be in service by the end of this year.

Marryat & Scott Limited has received an order from the Egyptian State Railways Administration for one electrically-operated goods lift for the E.S.R. Press, Cairo, at a total price of L.E. 672,100 mills.

The Egyptian State Railways Administration has placed orders for engine lighting equipment as follows:—  
J. Stone & Co. Ltd.: 50 Stone's turbo-generator and Tonum headlight sets at total cost of £4,108 15s. f.o.b. London; and Star Headlight Lantern Company: Two trial sets at total cost of £92 10s. f.o.b. London.

The South African Railways & Harbours Administration has recently placed orders against tender numbers as follows:

Bochamer Verein A.G.: Spring steel, B6588, price, £1,571 16s. 8d.  
Bayliss Jones & Bayliss Limited: Coach screws, B6460, price £5,400.  
North West Rivet Bolt & Nut Co. Ltd.: Fishbolts and nuts, B6561, price, £16 8s. per ton.  
Aluminium Union Limited: Aluminium bar, B6513 30, price, £291 8s. 7d.  
British Aluminium Co. Ltd.: Aluminium bar, B6513 30, price, £113 7s. 11d.  
Brown Bros. Limited: Tie rods, B6513 21, price, £181 3s. 10d.  
Guest Keen & Nettlefolds Limited: Taper keys, B6492, price, £241 8s.  
Aecles & Pollock Limited: Steel tubing, B6513 28, price, £1,102 2s. 4d.  
J. Booth & Co. (1915) Ltd.: Duralumin bar, B6513 32, price, £376 19s. 1d.  
Aircraft Materials Limited: Steel sheets, B6513 25, price, £199 19s. 6d.

Afol Insulation Limited is supplying Afol insulation for the boilers of the fifty 4-6-0 mixed traffic locomotives which the Vulcan Foundry Co. Ltd. has in hand for the L.M.S.R.

The Norwegian State Railways Administration has just placed an order with Vulcan Jernstøberi and Mek. Verksted, Oslo, for eight rail bridge spans totalling 140 metres in length, learns Reuters Trade Service from Oslo.

The spans are to be welded, thus saving about 20 per cent. in weight. They are required for the Nordland railway in north Norway and will be delivered in the spring. This is stated to be the first time rail bridges have been welded in Norway.

### G.W.R. Rolling Stock and Permanent Way Renewal Programme, 1935

Details of the G.W.R. annual programme of renewals and additions to rolling stock and permanent way work for 1935 are given on page 26 of this issue. From these it will be seen that 95 locomotives, 211 passenger vehicles, and 2,486 freight wagons including fitted vehicles, are to be constructed at Swindon works and this stock will include two new ten-unit kitchen-car centre-corridor trains for excursion and similar traffic. Track renewals over an aggregate mileage of 390 miles, involving 32,500 tons of steel rails in addition to large quantities of permanent way details are provided for, as also the rebuilding of some 130 bridges, the completion of the Bristol (Temple Meads) and Swansea (High Street) stations reconstructions, the entire re-modelling of Leamington Spa station, siding improvements at Old Oak Common, and construction of a number of new halts. Fuller details are set out on page 26, and editorial comment appears on page 2 of this issue.

### L.M.S.R. 1935 New Rolling-Stock and Works Programme

The passenger and goods vehicle portion of the L.M.S.R. 1935 programme was announced in part in this column in our issues for August 3, October 26, and November 23 of last year. Completion of the draft programme is now announced, and the details published on page 26 of this issue show that the complete programme includes provision of 287 new locomotives, including the 20 diesel-electric shunters mentioned elsewhere on this page, and a considerable number of 4-6-0's of three- and two-cylinder types. Of these locomotives, orders placed for 50 2-cylinder 4-6-0's with the Vulcan Foundry Co. Ltd., and 100 of the same type with Sir W. G. Armstrong, Whitworth & Co. (Engineers) Ltd., were recorded in our Contracts and Tenders section in the September 7, 1934, issue, and orders for the 20 diesel-electric shunting locomotives are mentioned elsewhere on this page. We understand the remaining 117 engines included in the programme will be built in the Company's own shops. The programme also provides for 175 locomotive boilers, 607 passenger coaches, 20 sleeping cars, 10,050 freight wagons (of which 1,950 are already on order or in course of delivery from the outside builders listed on page 874 of our November 23, 1934, issue), and two steamships. Permanent way totalling 600 miles will be renewed, which, together with smaller works, will require

90,000 tons of steel rails. The rebuilding of Burleigh Viaduct, announced in this column in our December 21, 1934, issue, is also included in the programme.

The Junagad State Railway has recently placed the following orders for materials and equipment to be supplied to the inspection of the consulting engineers, Messrs. Robert White & Partners:—Wolverhampton Corrugated Iron Co. Ltd.: 16 tons of galvanised sheets; Motherwell Bridge & Engineering Co. Ltd.: 50 tons of steel bridgework; and Kennicott Water Softener Co. Ltd.: two water softeners each of 500 galls. hourly capacity.

The Great Western Railway has placed the following contracts:—

E. C. Jordan & Son: Reconstruction of two cast-iron spans of Bishops Road bridge, Paddington.

Engineering Stores & Services Limited: Provision of central heating at the road wagon repair depot, Bristol.

F. Pratten & Co. Ltd.: Provision and erection of warehouse at Gowerton.

The Exors. of James Mills Limited has received an order from the South Indian Railway for 50,000 patent steel rail keys to be supplied to the inspection of the consulting engineers, Messrs. Robert White & Partners.

The L.M.S.R. has placed a contract with a London firm for a new station at Elm Park, between Dagenham and Hornchurch, on the London, Tilbury & Southend section. A contract has also been placed with a Birmingham firm for the extension of the fruit and vegetable warehouse at Camp Hill, Birmingham.

The Indian Stores Department has placed the following orders:—

Richardson & Cruddas Limited: One D.H. 2, No. 4 indenting nut machine for saving scrap in hexagonal nut manufacture and six sets of dies at total price of Rs. 16,798.

Mirrlees Bickerton & Day Limited: Two Mirrlees diesel engine- and General Electric Company's Witton alternator sets at total price of Rs. 60,045.

Wright Pinhorn & Partners Limited: Running contract for steel wire rope.

Greaves, Cotton & Co. Ltd.: Six deepwell pumping sets at total price of Rs. 14,445.

The Piræus - Athens - Peloponnesus Railway is negotiating with the Greek government for a loan of about £200,000 to be expended on new rolling-stock and track improvements. The equipment which it is proposed to purchase includes six 2-8-0 type tender locomotives, or, alternatively, diesel railcars of about 300 h.p.; seven 120-150-h.p. diesel railcars; ten first-class and eight second-class passenger coaches, from five to ten baggage vans and 108 steel box vans, together with some tools, rails and bridge materials.

The Agent, Burma Railways, Rangoon, invites tenders receivable on the dates named as follow:—

Miscellaneous tools and stores of English manufacture required during the official year 1935-36 (January 17).

Supply of permanent-way and signalling materials required during the official year 1935-36 (January 24).

The Egyptian State Railways Administration invites tenders receivable at the General Management, Cairo, by February 14, for the supply, erection and maintenance of one 500 kilo watt heavy oil engine coupled to an alter-



nator, or alternatively for one 500 kilowatt steam turbine-driven alternator, in both cases complete with all accessories, building and foundations.

The Siamese State Railways Administration is calling for tenders, to be presented in Bangkok by February 16, for the supply of 10 sets of central buffer hooks, cotters and nuts, and 32 intermediate buffer guides. Firms desirous of offering material of United Kingdom manufacture can obtain further details from the Department of Overseas Trade.

The Port and Railway Administration of Lourenço Marques is calling for tenders, to be presented in Lourenço Marques by March 4, for the supply of rails, fishplates, switches and crossings, &c. Further details can be obtained from the Department of Overseas Trade.

The Chief Controller of Stores, Indian Stores Department, invites tenders receivable on the dates named as follow:

Galvanised iron sheets required during the quarter commencing May 16, 1935, by the E.I., E.B., N.W., and G.I.P. Railways (January 14).

1,200 3 ft. 7 in. broad gauge tyres required for the E.I. Railway (January 14).

Single operator welding generators and oil engine for the N.W. Railway at Jhelum and comprising one single-operator belt-driven arc-welding generator with regulator and one compression ignition heavy oil engine (January 15).

Approximately 65,000 m.s. flat bearing plates for crossings 115-lb. F.F.B.S. and 90-lb. F.F.R.B.S. rails required for the E.I. Railway during the period March 1, 1935, to February 29, 1936 (January 22).

4,368 Steel boiler and superheater tubes required for the Jodhpur Railway (January 24).

Four vertical Cochran or similar cross-tube boilers of 3,000 to 3,700 lb. per hr. evaporative capacity for the locomotive smith shop, N.W. Railway, Moghalpura (January 24).

### Russian Trade Position

The value of orders placed in Great Britain by Soviet trading organisations in November, 1934, and the corresponding figures for November, 1933, for machinery and equipment were £34,928 and £58,440 respectively; for ferrous alloys and steel, £226,837 and £221,427 respectively; and for non-ferrous metals £353,640 and £291,716 respectively. Total orders for the eleven months of 1934 to November amounted to £1,298,542 for machinery and equipment (an increase of £935,707 over the same period in 1933); to £1,392,327 for ferrous alloys and steel (an increase of £766,201) and to £2,133,289 for non-ferrous metals (an increase of £570,762). The December monthly review of the Moscow Narodny Bank Limited, London, states that the two main reasons for the recent placing of Soviet orders in Great Britain on a cash basis are the strengthening of the economic and financial position of the U.S.S.R. and the high cost of credits on Soviet orders. Purchasing for cash, it is stated, will naturally not help to increase British exports to the U.S.S.R. and it is expected that such purchases will be less than they might have been under normal credit conditions. As a result of the high cost of credit, it is claimed, British goods are non-competitive with those of other countries and a drastic reduction in the cost of credit guarantees is stated to be an essential condition for the encouragement of the placing of Soviet orders in Great Britain.

## LEGAL NOTICES

In the Court of the Railway Rates Tribunal.

ROAD AND RAIL TRAFFIC ACT, 1933.  
AGREED CHARGES.

NOTICE IS HEREBY GIVEN that Applications for the approval of Agreed Charges under the provisions of Section 37 of the Road and Rail Traffic Act, 1933, short particulars of which are set out in the Schedule hereto, have been lodged with the Railway Rates Tribunal. The said Applications may be inspected at the Office of the Tribunal, 2, Clement's Inn, Strand, London, W.C.2, at any time during office hours and at the following places:—

LONDON: Railway Clearing House, 123, Seymour Street, N.W.1.

BIRMINGHAM: District Goods Manager's Office, Snow Hill, Great Western Railway.

CARDIFF: Divisional Superintendent's Office, Great Western Railway.

EXETER: Western Divisional Superintendent's Office, Southern Railway.

LEEDS: District Goods Manager's Office, Wellington Street, London & North Eastern Railway.

LEICESTER: District Goods and Passenger Manager's Office, London Midland & Scottish Railway.

MANCHESTER: District Goods Manager's Office, Hunt's Bank, London Midland & Scottish Railway.

SOUTHAMPTON: Southern Divisional Superintendent's Office, Southampton West, Southern Railway.

YORK: Goods Manager's Office, London & North Eastern Railway.

ABERDEEN: District Goods and Passenger Manager's Office, London Midland & Scottish Railway.

EDINBURGH: District Goods and Passenger Manager's Office, Waverley Station, London & North Eastern Railway.

GLASGOW: Commercial Manager's Office, Central Station, London Midland & Scottish Railway. A copy of each Application lodged with the Tribunal can be obtained from Mr. G. Cole Deacon, Secretary, Rates and Charges Committee, 35, Parliament Street, Westminster, London, S.W.1, price 1s., post free.

Notices of objection by any parties entitled to object to the approval of any of the said Agreed Charges must state concisely the grounds of objection and must be filed at the office of the Registrar, 2, Clement's Inn, Strand, London, W.C.2, on or before the 25th day of January, 1935, and a copy thereof on or before the same day served on or sent by registered post to Mr. G. Cole Deacon, at the above address. A separate Notice must be filed and served in respect of each Application.

Each Notice filed must be on foolscap size paper and must be stamped with an adhesive fee stamp for 2s. 6d. (which can be purchased at the office of the Tribunal only). If sent by post for filing each Notice must be accompanied by a Postal Order for 2s. 6d. payable to the Registrar, when a stamp will be affixed at the office. A Notice by a Representative of a Body of Traders must contain a statement of the facts upon which such Body claims to represent a substantial number of traders interested in, or likely to be affected by the decision on, the application.

Four additional copies of each Notice must be lodged with the original at the office of the Registrar.

T. J. D. ATKINSON,  
Registrar.

2nd January, 1935.

Number of Application and Date of Lodgment.	Parties to Agreement.	Nature of Agreed Charge.
1934, No. 202— Dec. 20, 1934	ANGUS WATSON & CO. LTD., Southall, Middlesex, and the G.W. Railway Co.	Per ton. Groceries, Preserves, and Provisions such as those included in Exceptional Rates Lists G, H, S and T, as defined in the General Classification of Merchandise; Stationery, Show Cards, and Gifts for advertisement.
1934, No. 203— Dec. 20, 1934	ANGUS WATSON & CO. LTD., Southall, Middlesex, and the G.W. Railway Co. <i>Applicable to traffic consigned by:</i> POULTON & NOEL LIMITED THE NORWEGIAN BRISLING PACKERS LIMITED	Per ton. Groceries, Preserves and Provisions, such as those included in Exceptional Rate Lists G, H, S and T, as defined in the General Classification of Merchandise; Stationery, Show Cards and Gifts for advertisement.
1935, No. 1— Jan. 1, 1935	THE CARBORUNDUM CO. LTD., Trafford Park, Manchester, and the Cheshire Lines Committee and G.W., L. & N.E. and L.M. & S. Railway Cos.	Per ton. Emery Wheels, Seythe Stones, and Abrasives.
1935, No. 2— Jan. 1, 1935	ENERGEN FOODS CO. LTD., Willesden, London, N.W.10, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per ton. Grocery Articles, such as in Lists G and H of the General Classification of Merchandise; Bread; Empty returned to Suppliers.
1935, No. 3— Jan. 1, 1935	ALBERT E. JONES (LONCHTON) LIMITED, Longton, Stoke-on-Trent, and the L.M. & S. Railway Co.	Per package. China and Earthenware.
1935, No. 4— Jan. 1, 1935	SPILLERS LIMITED, St. Mary Axe, London, E.C.3, and the Southern Railway Co.	Per ton. Dog Biscuits and Bird Seed.
1935, No. 5— Jan. 1, 1935	B.S.A. CYCLES LIMITED, Birmingham, and the G.W. and L.M. & S. Railway Cos.	Per Motor Bicycle. Motor Bicycles (complete).
1935, No. 6— Jan. 1, 1935	HALLAMSHIRE VINEGAR CO. LTD., Neepsend, Sheffield, and the L. & N.E. and L.M. & S. Railway Cos.	Per ton. Vinegar, Pickles, and Sauces.
1935, No. 7— Jan. 1, 1935	HALLAMSHIRE VINEGAR CO. LTD., Neepsend, Sheffield, and the Cheshire Lines Committee, G.W., L. & N.E., L.M. & S. Railway Cos., L.P.T.B., and Midland and Great Northern Joint Committee	Per ton. Empty returned to the Trader.
1935, No. 8— Jan. 1, 1935	ALLIED SUPPLIERS LIMITED, 179-189, City Road, London, E.C.1, and the Southern Railway Co.	Per ton. Multiple Shop Traffic (Provisions, &c.).
1935, No. 9— Jan. 1, 1935	THE BRITISH OIL & CAKE MILLS LIMITED, Blackfriars, London, E.C.4, and the Southern Railway Co.	Per ton. Meals and Husks for Animal and Poultry Feeding; Poultry Food, solid.
1935, No. 10— Jan. 1, 1935	HARRODS LIMITED, Knightsbridge, S.W.1, and the G.W., L.M. & S., L. & N.E. and Southern Railway Cos.	Per ton. Furniture (other than Household Removals) and General Stores; Empty returned to Suppliers.
1935, No. 11— Jan. 1, 1935	THE DISTRIBUTORS AND TRANSPORTERS LIMITED (MESSRS. UNILEVER'S DISTRIBUTING ORGANISATION), Unilever House, London, E.C.4, and the Southern Railway Co.	Per ton. Soap, Soap with Towels, Margarine, Lard and Lard Substitutes.

*Applicable also to traffic consigned by:—*  
JOHN KNIGHT LIMITED  
T. H. HARRIS & SONS LTD.  
OGSTON & TENNANT LIMITED  
EDWARD COOK & CO. LTD.  
F. HEWTHORN & CO. LTD.

Number of Application and Date of Lodgment	Parties to Agreement	Nature of Agreed Charge
1935, No. 11— Jan. 1, 1935 (contd.)	D. & W. GIBBS LIMITED A. & F. PEARLS LIMITED T. B. ROWE & CO. LTD. C. H. PARSONS & BROTHER LTD. HAZLEHURST & SONS LTD. HODGSON & SIMPSON LIMITED TYSON & CO. LTD. WILKIE & SOAMES LIMITED PRICE'S SOAP CO. LTD. SIMPSON & CO. LTD. UNITED EXPORTERS LIMITED VINOLOIA CO. LTD. CRAIGMILLAR CREAMERY CO. LTD. BALLOCHMYLE CO. LTD. NATIONAL MARGARINE CO. LTD. WILLIAM GOSSAGE & SONS LTD. F. S. CLEAVER & SONS LTD. ERASMIC CO. LTD. BENJAMIN BROOKE & SONS LTD. R. S. HUDSON LIMITED BRITISH CREAMERIES LIMITED DE BRUYN LIMITED HAGEMAN'S CREAMERIES (1929) LIMITED A. J. MILLS & CO. LTD. CAMPBELL, JAMES & CO. LTD. NEW MARGARINE WORKS LIMITED VAN DEN BERGH AND JURGENS (SALES) LIMITED JOSEPH WATSON & SONS LTD. J. CROSFIELD & SONS LTD. LEVER BROTHERS LTD. BRITISH SOAP CO. LTD.	
1935, No. 12— Jan. 1, 1935	THE DISTRIBUTORS AND TRANSPORTERS LIMITED (MESSRS. UNILEVER'S DISTRIBUTING ORGANISATION), Unilever House, London, E.C.4, and the Southern Railway Co.  Applicable also to traffic consigned by:— LEVER BROS. LTD. THE BRITISH SOAP CO. LTD.	Per ton. Soap and Soap with Towels.
1935, No. 13— Jan. 1, 1935	BRITISH VACUUM CLEANER & ENGINEERING CO. LTD., London, S.W.6, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per package. Vacuum Cleaners and Parts.
1935, No. 14— Jan. 1, 1935	S. COLLIER & CO. LTD., Trowbridge, and the G.W. Railway Co.	Per package. Cloth.
1935, No. 15— Jan. 1, 1935	DOMINION DAIRY CO. LTD., Aylesbury, Bucks, and the L.M. & S. Railway Co., L.P.T.B. (MET. SECTION) and G.C. J.T., and G.W. and G.C. J.T. Railway Cos.	Per ton. Butter and Cheese.
1935, No. 16— Jan. 1, 1935	GRATTAY WAREHOUSES LIMITED, Bradford, Yorks, and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Clothing, Drapery and General Stores Wares.
1935, No. 17— Jan. 1, 1935	NESTLE AND ANGLO-SWISS CONDENSED MILK COMPANY, Eastcheap, E.C.3, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per ton. Chocolate, Confectionery, dummy samples, utility and novelty packages and "Gift Scheme" articles.
1935, No. 18— Jan. 1, 1935	PALETHORPES LIMITED, Tipton, and the G.W. and L.M. & S. Railway Cos.	Per ton. Sausages, Tongues, Brawn, Boned Hams, Pressed Meat, Meat Pies, Black Puddings and Advertising Matter.
1935, No. 19— Jan. 1, 1935	KEARLEY & TONGE LIMITED, Mitre Square, London, E.C.3, and the G.W. Railway Co.	Per package. Cooked Meats, Brawn and Sausages.
1935, No. 20— Jan. 1, 1935	BEATTIES BISCUITS LIMITED, Drumchapel, Glasgow, and the L. & N.E. Railway Co.	Per ton. Biscuits and Cakes; Empties returned to Suppliers.
1935, No. 21— Jan. 1, 1935	"TWO STEEPLES" LIMITED, Wigton, and the L.M. & S. Railway Co.	Per package. Woollen Goods.
1935, No. 22— Jan. 1, 1935	EUGENE LIMITED, Edgware Road, Hendon, London, N.W., and the L.M. & S. Railway Co.	Per package. Papier Sachets and small parts of Hair Waving Machines.
1935, No. 23— Jan. 1, 1935	W. A. HOGG LIMITED, Leeds, and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Clothing and Woollen Goods.
1935, No. 24— Jan. 1, 1935	GREENGATE & IRWELL RUBBER CO. LTD., Salford, Manchester and the Cheshire Lines Committee and the G.W., L. & N.E. and L.M. & S. Railway Cos.	Per package. Waterproof and Showerproof Coats; Light Electric Cable; Rubber Boots and Shoes; Belting—Balata, Rubber, Canvas and Rubber; Rubber Goods; Gaiters, Leggings and Slippers (Felt and/or Leather); Ebonite Sheets and Cylinders.
1935, No. 25— Jan. 1, 1935	BRITISH STEAM SPECIALITIES LIMITED, Leicester, and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Machinery parts, such as Valves, Gauges, Pumps and Lubricators, also Fittings and Tools.
1935, No. 26— Jan. 1, 1935	I. & H. CAPLAN LIMITED, Sheffield, and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Clothing, Drapery and General Stores Wares.
1935, No. 27— Jan. 1, 1935	J. E. YORK LIMITED, Harwood Street, Chalk Farm Road, London, N.W.1, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per package. Clothing, Drapery and General Stores Wares.
1935, No. 28— Jan. 1, 1935	LUKE TURNER & CO. LTD., Leicester, and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Elastic Webbing.
1935, No. 29— Jan. 1, 1935	CO-OPERATIVE WHOLESALE SOCIETY LIMITED, Manchester and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Shirts.
1935, No. 30— Jan. 1, 1935	HUGON & CO. LTD., Manchester, and the Cheshire Lines Committee and G.W., L. & N.E., and L.M. & S. Railway Cos.	Per package. Suet, Lard, Tinned Fruits, Tinned and Packet Peas and Beans, and Paper Bags and Printed Matter, unbound.
1935, No. 31— Jan. 1, 1935	JOHN HORN (STOCKPORT) LIMITED, Stockport, and the Cheshire Lines Committee and the L.M. & S. Railway Co.	Per ton. Confectionery.

(Continued on the next page)

## Forthcoming Events

- Jan. 5 (Sat.).—L.N.E.R. (Great Central) Lecture and Debating Society, at University College, Shakespeare Street, Nottingham, 4.30 p.m. "Licensing of Road Transport," by Mr. R. J. Eaton.
- Jan. 7 (Mon.).—G.W.R. (Birmingham) Lecture and Debating Society, at Great Western Hotel, Snow Hill Station, 6.30 p.m. "Peace or War," by Mr. G. Le M. Mander, M.P.
- Permanent Way Institution (London), at Waterloo Station (S.R.), 7 p.m. "Continental Railways," by Mr. W. A. Willox.
- Jan. 8 (Tues.).—Institute of Transport (Birmingham), at Queen's Hotel, 6 p.m. "Road Safety," by Mr. M. J. Somerfield.
- Institute of Transport (Metropolitan Graduate), at Inst. of Electrical Engineers, Savoy Place, W.C.2, 6 p.m. "Motive Power for Railways," by Mr. A. H. Earley.
- Permanent Way Institution (York), at Railway Inst., Queen Street, 6.30 p.m. "Continental Railways," by Mr. W. A. Willox.
- Jan. 9 (Wed.).—Institution of Welding Engineers (London), at Inst. of Marine Engineers, The Minories, E.C.3, 7.45 p.m. "The Practical Side of Electric Resistance Welding," by Mr. H. S. Jeffs.
- Jan. 10 (Thurs.).—G.W.F. (London) Lecture and Debating Society, in General Meeting Room, Paddington station, 5.45 p.m. "The Evolution of Railway Passenger Train Transport," by Mr. H. J. Peacock.
- Institute of Metals (London), at Society of Motor Manufacturers, 83, Pall Mall, S.W.1, 7.30 p.m. "The Manufacture and Uses of Powdered Metals," by Mr. J. C. Chaston.
- Institution of Electrical Engineers, Savoy Place, London, W.C.2, 6 p.m. "Electrical Developments in the U.S.S.R.," by Mr. A. Monkhouse.
- L.N.E.R. (York) Lecture and Debating Society, at Railway Inst., Queen Street, 7 p.m. "The Trend of Signalling Development," by Mr. A. E. Tattersall.
- Southern Railway (London) Lecture and Debating Society, at Chapter House, St. Thomas' Street, London Bridge, S.E.1, 5.45 p.m. "Freight Train Operation," by Mr. W. J. England.
- Jan. 11 (Fri.).—Institute of Transport (Leeds), at Town Hall, 6.30 p.m. "The Development of the Wheel," by Mr. F. Fellowes.
- Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, 7 p.m. "Automatic Railway Signalling," by Mr. E. E. Pierce.
- Railway Students' Association (Edinburgh), at Goolld Hall, St. Andrew Square, 7.30 p.m. "The Future of Railways," by Mr. J. Lemon.
- Retired Railway Officers' Society, at Abercorn Rooms, Liverpool Street, London, E.C.2, 2.30 p.m. Ladies' Afternoon.
- Jan. 14 (Mon.).—Stephenson Locomotive Society, at King's Cross station, L.N.E.R., 6.30 p.m. "The Locomotive at Work," by Mr. B. Adkinson.
- Jan. 15 (Tues.).—Federation of Railway Lecture and Debating Societies (N.E. Area), at North Road Inst., Darlington, 7.20 p.m. Paper by Sir John Maxwell, C.M.G.
- Institute of Transport (London), at Inst. of Electrical Engineers, Savoy Place, W.C.2, 6 p.m. "Steel Rolling Stock (Passenger) for Railways," by Mr. C. E. R. Sherrington.
- Royal Empire Society, at Hotel Victoria, Northumberland Avenue, London, W.C.2, 8.30 p.m. "The Sydney Bridge," by Mr. R. Freeman.
- "Ports, Bridges and Railways in the East," by Mr. J. Tritton.
- "Railway Development in the Colonies," by Brig.-General F. D. Hammond, C.B.E., D.S.O. "Irrigation in India," by Colonel H. Pollard-Lowsley, C.M.G., C.I.E., D.S.O.
- Jan. 16 (Wed.).—Institute of Transport (Manchester-Liverpool Graduate), at Exchange Station Hotel, Liverpool, 6.30 p.m. "Improved and Little-known Transport Facilities," by Mr. S. Pimblett.
- Institution of Railway Signal Engineers, at Inst. of Electrical Engineers, Savoy Place, London, W.C.2, 6 p.m. "Some Applications of Rectifiers to Railway Signalling," by Mr. L. H. Peter.

## Legal Notices—(continued)

Number of Application and Date of Lodgment.	Parties to Agreement.	Nature of Agreed Charge.
1935, No. 32— Jan. 1, 1935	FREEMANS, Lavender Hill, London, S.W.11, and the Southern Railway Co.	Per package. Clothing, Drapery and General Stores Wares.
1935, No. 33— Jan. 1, 1935	A. GOLDENFELD & CO. LTD., Whitechapel, London, E.1, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per package. Boots, Shoes, Electric Lamp Bulbs, Haberdashery and Textiles.
1935, No. 34— Jan. 1, 1935	H. C. WEBB & CO. LTD., Witton, Birmingham, and the G.W. and L.M. & S. Railway Cos.	Per ton. Machines, lawn-mowing, washing and wringing; empties returned to Suppliers.
1935, No. 35— Jan. 1, 1935	J. H. BOUNDS, Manchester, and the Cheshire Lines Committee and the G.W., L. & N.E. and L.M. & S. Railway Cos.	Per package. Manufactured Cotton, Linen and Woollen Goods.
1935, No. 36— Jan. 1, 1935	THE CHISWICK PRODUCTS LIMITED, Chiswick, London, W.4, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per ton. Varnishes, Paints, Stains, Enamels, Polishes, Dressings, Tinplates and Returned Empty Tinplate Cradles, and trade accessories.
	<i>Applicable also to traffic consigned by:—</i> ATLANTIS (EAST) LIMITED. NUGGET POLISH SALES LIMITED.	
1935, No. 37— Jan. 1, 1935	JOHN NOBLE LTD., Manchester, and the Cheshire Lines Committee and the G.W., L. & N.E., and L.M. & S. Railway Cos.	Per package. Clothing, Drapery and General Stores Wares.
1935, No. 38— Jan. 1, 1935	MARR, DOWNIE & CO. LTD., Bridgeton, Glasgow, and the L. & N.E. and L.M. & S. Railway Cos.	Per ton. Stationery, Paper, Books and Stationers' Sundries.
1935, No. 39— Jan. 1, 1935	"MORRIS BIG VALUE CLUB," Ashley Lane, Shipley, and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Clothing, Drapery and General Stores Wares.
1935, No. 40— Jan. 1, 1935	MORRIS & SON, Dale Street, Shipley, and the L. & N.E. and L.M. & S. Railway Cos.	Per package. Clothing, Drapery and General Stores Wares.
1935, No. 41— Jan. 1, 1935	APLIN & BARRETT AND THE WESTERN COUNTIES CREAMERIES LIMITED, Yeovil, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per ton. Butter, Cheese, Cream, Sausages, Cooked and Preserved Meats, &c.
	<i>Applicable also to traffic consigned by:—</i> C. & E. WALKER LIMITED. C. & T. HARRIS (CALNE) LIMITED, Calne, Wiltshire, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos. and L.P.T.B. This application, by leave granted under Rule 4, relates also to Agreed Charges with other Registered Bacon Curers in Great Britain as specified therein.	
1935, No. 42— Jan. 1, 1935	VALENTINE & SON LIMITED, Dundee, and the L. & N.E. and L.M. & S. Railway Cos.	Per pig. Live Pigs consigned to Registered Bacon Curers or their Agents.
1935, No. 43— Jan. 1, 1935	PLANT BROS. LTD, Enfield, Middlesex, and the L. & N.E. Railway Co.	Per ton. Calendars; Pictures, Framed; Printed Matter; Stationery; Fancy Goods; Empties returned to Suppliers.
1935, No. 44— Jan. 1, 1935	S. SIMPSON LIMITED, Stoke Newington Road, London, N.16, and the G.W., L. & N.E., L.M. & S. and Southern Railway Cos.	Per package. Small Tables, Deck Chairs, Garden Umbrellas, Hammocks, and similar articles.
1935, No. 45— Jan. 1, 1935	THE DISTRIBUTORS AND TRANSPORTERS LIMITED (MESSRS. UNILEVER'S DISTRIBUTING ORGANISATION), Unilever House, London, E.C.4, and the G.W., L.M. & S. and Southern Railway Cos.	Per package. Clothing and Woollen Goods.
1935, No. 46— Jan. 1, 1935	<i>Applicable also to traffic consigned by:—</i> DE BRUYN LIMITED. BRITISH CREAMERIES LIMITED. T. H. HARRIS & SON LTD. R. S. HUDSON LTD. LEVER BROS. LTD. BRITISH SOAP CO. LTD. BENJAMIN BROOKE & CO. LTD. VAN DEN BERGH & JURGENS (SALES) LIMITED.	Per ton. Candles, Soap, and Soap with Articles for advertisement; Margarine (from Plymouth Goods Stations and Depots only).
1935, No. 47— Jan. 1, 1935	THE DISTRIBUTORS AND TRANSPORTERS LIMITED (MESSRS. UNILEVER'S DISTRIBUTING ORGANISATION), Unilever House, London, E.C.4, and the G.W., L.M. & S., and Southern Railway Cos.	Per ton. Candles, Soap and Soap with Articles for advertisement.
	<i>Applicable also to traffic consigned by:—</i> R. S. HUDSON LIMITED. LEVER BROS. LTD. BRITISH SOAP CO. LTD. BENJAMIN BROOKE & CO. LTD.	
1935, No. 48— Jan. 1, 1935	THE DISTRIBUTORS AND TRANSPORTERS LIMITED (MESSRS. UNILEVER'S DISTRIBUTING ORGANISATION), Unilever House, London, E.C.4, and the G.W. and L.M. & S. Railway Cos.	Per ton. Candles, Soap and Soap with Articles for advertisement.
	<i>Applicable also to traffic consigned by:—</i> CHRISTOPHER THOMAS & SON LTD. T. H. HARRIS & SON LTD. JOSEPH WATSON & SON LTD. J. CROSFIELD & SONS LTD. J. L. THOMAS & CO. LTD.	
1935, No. 49— Jan. 1, 1935	THE DISTRIBUTORS AND TRANSPORTERS LIMITED (MESSRS. UNILEVER'S DISTRIBUTING ORGANISATION), Unilever House, London, E.C.4, and the G.W. and L.M. & S. Railway Cos.	Per ton. Margarine.
	<i>Applicable also to traffic consigned by:—</i> VAN DEN BERGH & JURGENS (SALES) LIMITED	

## Argentine Railway Wages Award

The following is a translation of the terms of the Presidential Award, pronounced October 23, 1934, on disputes which had arisen between the companies and the railway unions as to wages:—

*Clause 1.*—The companies shall maintain for the whole staff, both administrative and that represented by the labour unions Union Ferroviaria and La Fraternidad, the salary reductions now in force or that may be in force on the various railways, in accordance with the existing agreements entered into with the Union Ferroviaria, substituting therein the system known as "short-time" working by an equivalent cut in wages and salaries, estimating that every day laid off represents an economy of 3.3 per cent. Both the mechanical and way and works workshops are excepted, provided "short-time" working is made effective therein.

*Clause 2.*—Such cuts shall have the nature of retentions, to be returned in the proportion allowed by the profits from working.

*Clause 3.*—For the purpose of establishing the latter, the following shall be considered as expenses:—

- Industrial expenses common to every railway.
- The contribution established by Law No. 5315.
- Sixty per cent. of the percentage fixed by the reglementary decree of Law 5315, for the purpose of meeting renewal expenses, provided the companies effect renewals for that amount.
- Interest on debentures and mortgage obligations in paper "pesos" at par.

*Clause 4.*—Should the gross receipts exceed such limits, the surplus at the end of the financial year shall be distributed proportionally by each company between the total amount of the retentions and the sum representing the losses on exchange.

*Clause 5.*—If in the course of the financial year the results of working, estimated in quarterly periods, indicate the possibility of returning part of the retentions, this shall be done as an advance, without prejudice to cancelling all retentions when, with the profits already obtained, the total return is assured.

*Clause 6.*—The National Railway Board shall seek the means and establish the procedure to keep the labour unions informed quarterly of the economic situation of the companies.

*Clause 7.*—The differences that may arise through the application of the dispositions of Article 5 shall be investigated by the National Railway Board and submitted to the Minister of Public Works for his decision.

*Clause 8.*—The National Railway Board within the period of 3 months and after consulting the parties, shall submit to the Executive Power modifications allowing, on the one hand, the obtaining of a better utilisation of the staff within the established maximum working day, and on the other, fixing the categories above which the specialities corresponding to the various branches of railway activity must be established.

In an editorial article on page 5 we indicate the rulings of the Minister of Public Works upon three points of interpretation.



## OFFICIAL NOTICES

County Borough of Swansea  
ELECTRICITY DEPARTMENT.

THE Corporation invite Tenders for the manufacture, delivery, setting to work and testing on the Corporation sidings, at Tir John Power Station, Swansea, of one STEAM SHUNTING LOCOMOTIVE—Section "U."

The works are Unemployment Relief Works and will be subject to the Conditions laid down by the Government Unemployment Grants Committee.

On and after Monday, January 7th, 1935, the General Conditions, Specification and Form of Tender may be obtained at the offices of the Consulting Engineers, Messrs. Preece, Cardew & Rider, 8, Queen Anne's Gate, Westminster, S.W.1, on deposit of two guineas, which will be returned on receipt of a bona fide

Tender (not subsequently withdrawn). Additional copies of the Specification may be obtained on payment of one guinea for each copy, which will not be returnable.

Tenders, enclosed in plain sealed envelopes and endorsed in the left-hand corner "Tir John Power Station, Tender for Locomotive," must be received by the undersigned not later than 12 noon on Tuesday, January 22nd, 1935.

No Tender will be received after that time, nor will any Tender be received which bears any name or mark indicating the sender.

The lowest or any Tender will not necessarily be accepted.

H. L. LANG-COATH,  
Town Clerk.

The Guildhall,  
Swansea.  
January 1st, 1935.

THE ASSAM-BENGAL RAILWAY CO.  
LTD. is prepared to receive Tenders for:—  
14 SUPERHEATED BOILERS.

Specifications and Tender Forms may be obtained at the Offices of the Company, Bishopsgate House, 80, Bishopsgate, E.C.2. A fee of £1 1s. is charged for each Specification, which cannot be returned.

Drawings may be had at the cost of the tenderer by application to Messrs. Hodges Bennett & Co. Ltd., 16, Victoria Street, S.W.1.

Tenders must be delivered at the Company's Offices not later than noon on Wednesday, the 23rd January, 1935.

The Directors do not bind themselves to accept the lowest or any Tender.

By Order of the Board.  
W. H. J. GORE,  
Secretary.

1st January, 1935.

## "The Times"

In tendering our congratulations to *The Times* on the attainment of its 150th birthday, we are merely adding our own word to the wealth of well-deserved eulogy which has poured in during the past few days from all parts of the civilised world.

No. 1 of *The Daily Universal Register* made its bow on Saturday, January 1, 1785, price 2½d., and three years later the famous title *The Times* was adopted. The original intention was rather to promote a system of printing known as logography (setting from whole words of type instead of separate letters), and

throughout its career *The Times* has maintained a high standard of typography. A succession of brilliant proprietors and editors, however, quickly added a high level of journalistic accuracy and comprehensiveness to the aims of the paper, and it is the great success in this direction which has for so long justified the claim of *The Times* to be our great national newspaper.

We of THE RAILWAY GAZETTE naturally claim a specialised knowledge of railway matters, and therefore ability to judge of the daily press statements on railway affairs. Too often, and

with but few notable exceptions, we find them inaccurate or at the best misleading, and the inevitable consequence is that, finding errors in that which we know, we are led to cast doubts on statements of matters of which we lack specialised knowledge.

*The Times* has always provided an outstanding, and probably the greatest, example of accuracy and reliability on railway and general transport matters within the scope and limitations of a daily national newspaper. In this respect we are able to offer especial congratulations, not only for the inherent merit of this quality, but also for the impression of confidence in other matters which must result in the railway mind.

## Hull-New Holland Ferry Service.

—The L.N.E.R. placed in service on Saturday, December 22, the two new vessels recently built for the improved ferry service between Hull (Victoria Pier) and New Holland. These vessels, the *Wingfield Castle* and the *Tattershall Castle*, were launched at West Hartlepool on September 24 last. They are steel paddle steamers with large deck space for cargo and motor vehicles. The passenger accommodation is distinctive in design and execution and a buffet is provided on each vessel.

## World's Largest Milk Depot near Wood Lane, G.W.R.

—With the arrival of a special milk train at midnight on Wednesday, January 2, what is believed to be the largest milk depot in the world was brought into use at Wood Lane. The depot, which has been constructed by the United Dairies, Ltd., for its subsidiary company, the London Wholesale Dairies, covers an area of nearly eight acres and is served by extensive railway sidings. It is in immediate communication with the G.W.R. main line routes and can be served by all the trunk rail routes. The milk, of which a maximum of 70,000 gallons a day can be processed, will be conveyed in 3,000-gallon rail tanks. The building of the depot, which includes spacious buildings for staff, pasteurising, homogenising and sterilis-

ing milk, and a new research laboratory, has given direct employment to 350 men. In order to give road access, a 30-ft. bridge over the Ealing extension of the Central London Railway was necessary.

**French East African Railway Acceleration.**—A new passenger train service has started on the Dakar-Niger Railway, by which passengers travelling in either direction by the Sudan express now save nearly four hours on the Dakar-Bamako section. The improvement, while owing something to the good results of the re-organisation of the Kayes-Niger section of the Kayes-Malina line, has been brought about largely by the successful joint efforts of the Traffic and Administrative Departments of the Dakar-Niger Railway to improve the working of the line in spite of drastic economies.

## Wagon Building Cartel Prolonged.

—The International Wagon Syndicate formed in 1930 by Belgium, Germany, France, Italy, Czechoslovakia, Hungary, Austria, and Switzerland, has been prolonged indefinitely under the title of L'Association Internationale des Constructeurs de Matériel Roulant. Export orders booked by its members are regulated according to a fixed quota, of which Belgium enjoys the greatest proportion with 34.6 per cent. and Germany comes second with 28.8 per cent. Orders decided upon or

under consideration by the Reichsbahn are expected to keep the German wagon industry working at its present rate of 40 per cent. of capacity during 1935. Orders to the value of about 40,000,000 RM. will be placed in the first half of the year and a further 20,000,000 RM. is probable subsequently. The German Steel Works Association anticipates railway orders for about 360,000-380,000 metric tons of permanent-way material, against 480,000 metric tons in 1934.

## Mishap to The Comet Express, L.M.S.R.

—The express train which left Euston at 11.50 a.m. for Manchester and Liverpool, The Comet, was delayed in the vicinity of Welton, near Rugby, on Monday last, December 31, owing to a mishap to the boiler of the locomotive. A stud securing a fitting on the firebox below the footplate worked out of position owing to a defective thread, thus leaving an opening through which steam and water could escape into the cab. The driver and fireman, in spite of the difficulties of the situation, succeeded in bringing the engine to a standstill and a relief engine from Rugby with a fresh crew took the train on to Manchester, where it arrived about 2½ hours' late. The driver and fireman subsequently returned to their homes after receiving treatment for their injuries.

## Railway Share Market

The stock and share markets have opened the New Year with a confident tone in many sections and with encouraging views about the probable movement of prices of Home railway stocks. The current trend of market opinion is that all the first preference stocks of the four big railway groups will receive their full dividends for 1935. This is, of course, virtually assured in the case of the London Midland & Scottish Railway as a result of the decision last month of the directors to pay the full dividend on the 5 per cent. redeemable preference stock, which ranks *pari passu* with the 4 per cent. first preference stock.

In the case of the Great Western there is no doubt entertained as to the payment, and the view is supported by expectations that the directors will decide

to pay a dividend on the ordinary stock, although the question as to whether the actual rate of dividend earned should be supplemented by a further transfer from reserves so as to make the distribution up to 3 per cent. still remains uncertain. Southern preference stock is assured of its full dividend, and the only stock on which there may be some uncertainty is the 4 per cent. first preference stock of the London & North Eastern, which received 2 per cent. for 1933. The extent of interest in the junior and more speculative stocks is expected to turn on the character of the dividends and the statements at the annual meetings in February and March. Meantime, interest is not sufficiently keen to bring about any great change, and whilst the traffic receipts for the final week of 1934 were regarded as disappointing when they were posted up in the Stock Exchange on Wednesday, there was only a relatively

small recession in quotations. A feature of the market was the rise in London Transport "C" stock to par for the first time on Monday, but when the market reopened after the usual January 1 holiday, there was almost a queue of brokers waiting to buy the stock for clients, so convinced are investors on the prospect of a larger dividend being forthcoming on the stock for 1935.

In foreign railways Argentine ordinary stocks were inclined to harden on a little speculative buying, but the prior charge stocks lacked support. Buenos Ayres Great Southern 6 per cent. preference stock relapsed on the offer of a small lot of stock. Most of the American railroad stocks established higher prices, and in some directions renewed interest is being shown by English investors in the possibility of the anticipated recovery of American business being realised in 1935.

### Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1934-35	Week Ending	Traffic for Week		No. of Week	Aggregate Traffic to Date			Shares or Stock	Prices					
			Total this year	Inc. or Dec. compared with 1934		Totals		Increase or Decrease		Highest 1934	Lowest 1934	Jan. 1935	Yield % (Sec. Note)		
						This Year	Last Year								
South & Central America.															
Antofagasta (Chili) & Bolivia	830	30.12.34	20,350	+	£ 8,950	52	788,810	£ 576,010	+	£ 212,800	Ord. Stk.	263½	19	23	Nil
Argentine North Eastern	753	29.12.34	6,508	—	298	26	193,171	236,253	—	43,082	—	11	67½	9	Nil
Argentine Transandine ..	111	—	—	—	—	—	—	—	—	—	A. Deb.	52	45	50	8
Bolivar .. .. .	174	Nov., 1934	5,750	+	450	47	65,700	67,350	—	1,650	6 p.c. Db.	10	61½	10	Nil
Brazil .. .. .	—	—	—	—	—	—	—	—	—	—	Bonds.	135½	107½	13	31½
Buenos Ayres & Pacific	2,806	29.12.34	68,893	—	9,683	26	1,789,893	2,118,222	—	328,329	Ord. Stk.	161½	81½	91½	Nil
Buenos Ayres Central ..	190	9.12.34	\$97,000	—	\$14,900	23	\$2,842,800	\$2,687,600	+	\$155,200	Mt. Db.	23	10	23	Nil
Buenos Ayres Gt. Southern	5,085	29.12.34	136,790	—	35,320	26	3,169,480	4,046,015	—	876,535	Ord. Stk.	35	22	25½	Nil
Buenos Ayres Western ..	1,930	29.12.34	43,937	—	4,724	26	1,082,773	1,375,550	—	292,777	"	271½	181½	231½	Nil
Central Argentine ..	3,700	29.12.34	106,652	—	24,227	26	2,980,703	3,541,650	—	560,947	"	23	13½	15½	Nil
Do. .. .. .	—	—	—	—	—	—	—	—	—	—	Divd.	14	7	8	Nil
Cent. Uruguay of M. Video	273	29.12.34	17,463	—	97	26	425,348	419,956	+	5,392	Ord. Stk.	151½	8	9½	Nil
Do. Eastern Extn.	311	29.12.34	3,843	+	686	26	87,913	80,177	+	7,736	—	—	—	—	—
Do. Northern Extn.	185	29.12.34	2,396	—	703	26	47,010	45,080	+	1,930	—	—	—	—	—
Do. Western Extn.	211	29.12.34	1,652	—	352	26	37,653	38,115	—	462	—	—	—	—	—
Cordoba Central ..	1,218	29.12.34	25,480	—	3,720	26	776,620	1,003,200	—	226,580	Ord. Inc.	6	3	4	Nil
Costa Rica .. ..	188	Oct., 1934	13,646	—	2,769	13	61,485	81,190	—	17,705	Stk.	305½	23½	30	61½
Dorada .. .. .	70	Nov., 1934	10,400	+	3,000	47	112,800	85,800	+	27,000	1 Mt. Db.	103	95	102½	5½
Entre Rios .. ..	810	29.12.34	14,628	—	415	26	311,753	346,823	—	35,070	Ord. Stk.	211½	12	13	Nil
Great Western of Brazil	1,082	29.12.34	13,300	—	3,200	52	478,000	532,600	—	54,600	Ord. Sh.	7½	3½	9½	Nil
International of Cl. Amer.	794	Nov., 1934	\$365,862	+	\$18,171	47	\$4,311,914	\$4,125,766	+	\$186,148	1st Pref.	17½	17½	19	Nil
Interoceanic of Mexico ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
La Guaira & Caracas ..	225½	Nov., 1934	3,085	+	585	47	39,150	52,270	—	13,120	Stk.	125½	75½	81½	1½
Leopoldina .. ..	1,918	29.12.34	18,771	—	982	52	1,312,015	1,279,561	+	32,454	Ord. Stk.	145½	7	8	Nil
Mexican .. .. .	483	21.12.34	\$226,500	+	\$21,000	24	\$5,596,500	\$4,684,500	+	\$912,000	"	314	11½	11½	Nil
Midland of Uruguay ..	319	Nov., 1934	13,536	—	2,364	21	52,325	45,688	+	6,637	"	112	12	12½	Nil
Nitrate .. .. .	401	31.12.34	13,123	+	1,235	52	256,066	147,158	+	108,908	Ord. Sh.	329½	51	25½	Nil
Paraguay Central ..	274	29.12.34	5,920	+	3,310	26	120,290	85,560	+	34,730	Pr. Li. Stk.	84	67	81½	7½
Peruvian Corporation ..	1,059	Nov., 1934	58,693	+	621	21	309,538	274,940	+	34,598	Pref.	141½	8	9	Nil
Salvador .. .. .	100	22.12.34	\$28,800	+	\$12,700	25	\$303,052	\$349,793	—	\$46,741	Pr. Li. Db.	75	70	70	7½
San Paulo .. ..	153½	23.12.34	28,462	—	5,558	51	1,502,897	1,547,304	—	44,407	Ord. Stk.	86	67	77½	5½
Taltal .. .. .	164	Nov., 1934	2,225	+	420	21	11,430	8,892	+	2,538	Ord. Sh.	21½	17½	115½	5½
United of Havana ..	1,365	22.12.34	16,895	+	2,811	25	406,907	326,470	+	80,437	Ord. Stk.	6	2	3	Nil
Uruguay Northern ..	73	Nov., 1934	1,322	—	332	21	5,766	6,085	—	319	Deb. Stk.	61½	3	5½	Nil
Canada.															
Canadian National ..	23,733	21.12.34	617,110	+	53,659	50	32,103,882	28,959,702	+	3,144,180	—	—	—	—	—
Canadian Northern ..	—	—	—	—	—	—	—	—	—	—	Perp. Dbs.	781½	511½	77	55½
Grand Trunk .. ..	—	—	—	—	—	—	—	—	—	—	4 p.c. Gar.	1041½	971½	102½	37½
Canadian Pacific ..	17,018	21.12.34	506,800	+	51,400	50	24,475,800	22,269,800	+	2,206,000	Ord. Stk.	181½	111½	12	28
India.															
Assam Bengal .. ..	1,329	1.12.34	27,405	+	953	35	941,320	823,349	+	117,971	Ord. Stk.	881½	72	87½	37½
Barsi Light .. ..	202	8.12.34	2,047	—	308	36	99,060	105,278	—	6,218	Ord. Sh.	1041½	98½	1041½	5½
Bengal & North Western	2,113	8.12.34	48,521	—	2,327	10	433,989	456,500	—	22,541	Ord. Stk.	297½	262	297½	5½
Bengal Doonars & Extension	161	8.12.34	3,085	+	1,137	36	107,746	107,530	—	216	"	1251½	124	125½	6½
Bengal-Nagpur .. ..	3,269	24.11.34	115,575	—	10,011	34	3,713,921	3,443,105	+	270,816	"	1051½	96	103½	37½
Bombay, Baroda & Cl. India	3,072	22.12.34	178,425	—	11,850	38	5,741,925	5,482,425	+	259,500	"	115	108½	113½	5½
Madras & South'n Mahratta	3,230	1.12.34	85,425	—	15,117	35	3,746,141	3,737,332	—	8,809	"	131	122½	126½	7½
Rohilkund & Kumaon ..	572	8.12.34	10,003	—	344	10	82,365	76,967	+	5,398	"	263	250	258½	6½
South India .. ..	2,526	1.12.34	67,592	—	9,959	35	2,792,472	2,750,011	—	42,461	"	119	115	114½	7
Various.															
Beira-Umtali .. ..	204	Oct., 1934	61,135	+	11,206	4	61,135	49,929	+	11,206	—	—	—	—	—
Bilbao River & Cantabrian	15	Nov., 1934	1,614*	—	969	48	18,333	17,992	+	341	—	—	—	—	—
Egyptian Delta .. ..	621	10.12.34	8,412	—	790	36	165,765	158,937	+	6,828	Prf. Sh.	215½	13½	21½	4
Great Southern of Spain	104	22.12.34	2,460	—	395	51	115,322	114,213	+	1,109	Inc. Deb.	4	31½	31½	Nil
Kenya & Uganda ..	1,625	Nov., 1934	171,375	+	23,927	47	2,030,212	1,932,689	+	97,523	—	—	—	—	—
Manila .. .. .	—	—	—	—	—	—	—	—	—	—	B. Deb.	50	33	49	7½
Mashonaland .. ..	913	Oct., 1934	117,273	+	22,700	4	117,273	94,573	+	22,700	1 Mt. Db.	101	91½	100½	5
Midland of W. Australia	277	Nov., 1934	15,075	—	2,507	21	71,429	65,112	+	6,317	Inc. Deb.	100	93	96½	4½
Nigerian .. .. .	1,905	17.11.34	78,294	+	6,319	33	1,012,514	843,351	+	169,163	—	—	—	—	—
Rhodesia .. .. .	1,538	Oct., 1934	189,559	+	29,458	4	189,559	160,101	+	29,458	4 p.c. Db.	1047½	971½	1041½	31½
South African .. ..	13,217	8.12.34	565,608	+	75,514	36	18,404,196	16,225,572	+	2,178,624	—	—	—	—	—
Victorian .. .. .	6,172	Aug., 1934	740,142	+	27,143	8	1,433,140	1,380,045	+	53,095	—	—	—	—	—
Zafra & Huelva .. ..	112	Nov., 1934	11,562	+	636	47	127,888	123,827	+	4,061	—	—	—	—	—

NOTE.—Yields are based on the approximate current prices and are within a fraction of 1½.

\* Rebellion.

† Receipts are calculated @ 1s. 6d. to the rupee.

‡ Ex dividend.

Salvador receipts are in currency.

The variation in Sterling value of the Argentine paper peso has lately been so great that the method of converting the sterling weekly receipts at the par rate of exchange has proved misleading, the amount being overestimated. The statements from July 1 onwards are based on the current rate of exchange and not on the par value.